

JPRS-UAG-85-018

25 July 1985

USSR Report

AGRICULTURE

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25 July 1985

USSR REPORT AGRICULTURE

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MAJOR CROP PROGRESS AND WEATHER REPORTING

RSFSR OFFICIAL DISCUSSES AGRICULTURAL PERFORMANCE, OBJECTIVES

Moscow SOVETSKAYA ROSSIYA in Russian 29 Mar 85 p 1

[Commentary by A. A. Taratushki, deputy chief of main administration, RSFSR ministry of agriculture]

[Text] Farmers in the Central Black Earth Region have set themselves the objective of producing 24-25 quintals of grain per hectare this year. This is a challenging undertaking, particularly when we recall the consequences of last year's severe drought. To be able to achieve their goals the farmers are going to have to make the most extensive use possible of the latest advances in science and technology.

The experience they gained in Tambov and Lipetsk oblasts last year demonstrated the advantages to be derived from the intensive method, and it is now being employed on 818,000 hectares, or one-third of the area sown to winter crops. Permanent tracks have been run over almost 550,000 of these hectares. This, of course, will make it possible to continue the required top dressing after the sowing.

Our primary concern now is that we get enough mineral fertilizer on, carbamide first and foremost, for the spring and summer treatments. Fertilizer deliveries to Sel'-khozkhimiya warehouses have so far been on schedule.

Last year's drought left us with a lot of inferior, underdeveloped seed, which has created many problems for our seed growers; they have, however, been able to work around them: 96 per cent of our summer crop seed is meeting first and second category requirements. The grass seed is not of bad quality either, with some of it only in Lipetsk Oblast leaving something to be desired in the way of purity.

In attempting to establish a base from which to extend application of the intensive methods, we are giving particular attention in the Central Black Earth region now to the problem of increasing the fertility of the soil. The area given over to clean fallow is being increased this year by over 100,000 hectares. Lipetsk and Tambov oblasts have been most successful in the use of local fertilizer: we have every reason to believe that 45-50 tons of organic fertilizer will be applied to each hectare there. The situation in Voronezh Oblast could be better, what with the fact that the first-quarter target was reached here to the extent of barely 50 per cent.

The farmers in our oblasts finished repairs on their cultivators and sowing equipment back during the winter: they are now busy finishing, setting and adjusting it. The

introduction of intensive methods has meant no small amount of extra work for our equipment operators. Among other things, for example, they are having to reequip their OPSh-15 sprayers. The farmers in Kursk Oblast are already in the final stages of this conversion, while their neighbors in Belgorod have fallen behind. Tractor maintenance and repairs have been best organized in Tambov Oblast, while the readiness level drops to its lowest in Kursk Oblast, which, incidentally, is the way things looked last year.

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CSO: 1824/334

MAJOR CROP PROGRESS AND WEATHER REPORTING

FIELD WORK PROGRESS, CONDITIONS IN SARATOV OBLAST

Saratov STEPNYYE PROSTORY in Russian No 12, Dec 84 pp 14-15

/Article by G.A. Loginov, chief of the Department of Farming of the Agricultural Administration of the Saratov Oblast Executive Committee and N.K. Neprikov, senior engineer of the Saratov branch of Yuzhgiprozem Institute: "Clean Fallow -- A Harvest Guarantee"/

/Text/ The Politburo of the CPSU Central Committee has examined the proposal by VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ with regard to increasing the production of grain through the intensive use of clean fallow and the introduction of progressive technologies. In the decree adopted by the Politburo, it is noted that the experience accumulated in a number of rayons confirms the high results being achieved from such management of the grain economy.

The kolkhozes and sovkhoses in our oblast are striving in a very strict manner to observe the recommendations made by the scientists. In 1984, there were 800,000 hectares of fallow land. The area of such land is constantly increasing. Compared to 1978, it has increased by 264,000 hectares and in 1985 it will reach more than 850,000 hectares. This is obviously a very impressive figure. During 3 years of the current five-year plan, the winter crop yields from clean fallow were higher by a factor of 1.5 than those obtained from non-fallow lands. And at kolkhozes and sovkhoses in Piter'skiy, Fedorov'skiy and Balashov'skiy rayons, the fallow land yields were twice as high. They were especially effective during years similar to the present one. For example, at the Oktyabr'skiy Kolkhoz in Tatishchev'skiy Rayon, a large portion of the grain obtained during the past harvest campaign was supplied by the winter crop fields. An average of 15.8 quintals of high quality wheat grain was obtained from each of 800 hectares. Individual tracts turned out to be even more productive. This once again confirmed the fact that the winter crops are insurance crops and are capable of augmenting the grain supplies during any year, provided the technology employed for cultivating them is carried out in an efficient manner and constant concern is displayed for raising the fertility of the soil.

The winter wheat at this kolkhoz was sown mainly following clean fallow and in late August. The seed was of 1st grade quality, with use being made of the Mironovskaya 808 variety and the sowing norm was 4.5 million seeds per hectare. In the spring the sowings were given a top dressing of mineral fertilizer and

they were harrowed. The harvesting of the crops was carried out over a period of 1 week using the two-stage method. All of the crops grown were harvested without losses.

The kolkhoz's machine operators possess an adequate amount of experience in the cultivation of winter crops. They are equally successful in cultivating both wheat and rye. During the better years, they obtain 30 or more quintals of grain per hectare.

The basis for obtaining high yields consists of tending the fallow land in a fine manner. As a rule, it is plowed in the autumn using plows with skim coulters. Snow retention work is carried out twice during the winter for the purpose of accumulating moisture. In the spring the arable land is harrowed and in the summer it is cultivated. The first cultivation, and during damp years the second one, are carried out to a depth of 10-12 centimeters. The depth of subsequent cultivations is 6-8 centimeters. The units are equipped with floats for levelling off the soil. On hillsides the cultivation is carried out only crosswise to the slope. During the second half of the summer the soil is packed following cultivation for the purpose of creating an optimum density for the arable layer. Prior to the onset of the sowing periods the fallow fields are maintained free of weeds. The effectiveness of clean fallow increases with the establishment of windbreak strips.

The winter crops are very responsive to fertilization. Not less than 20 tons of farmyard manure, with a phosphorus additive, are applied per hectare of fallow land at the kolkhoz as the principal fertilizer. When there is a shortage of phosphorus fertilizer, it is applied to the drill rows during sowing. A top dressing of nitrogen fertilizer is applied to winter crops following bare fallow and the nitrogen top dressing dosage is increased for winter crops following non-fallow predecessor crop arrangements.

This year the winter crop fields at the kolkhoz were expanded and reached 2,000 hectares and this was almost one half of all of the grain fields. The clean fallow consisted of 900 hectares. Forage and pulse crops served as the predecessor crop arrangements for the winter crops on the remaining area. The soil was prepared thoroughly, fertilized and prepared well for sowing. The entire area was sown using the kolkhoz's own seed -- the regionalized Saratovskaya 4 rye variety and Mironovskaya 808 wheat.

The kolkhoz's agronomic service monitors in a very strict manner the observance of the optimum sowing periods, as a decisive factor for obtaining high winter crop yields. Experience has shown that the plants grow to an excessive degree and often perish during the wintering period when the sowing is carried out too early. On the other hand, if the sowing is carried out late the plants do not bush out or take root well, they do not utilize adequately the autumn and spring supplies of moisture in the soil and they suffer to a greater degree from spring and summer drought conditions. Special attention is being given to mandatory applications of phosphorus-containing fertilizers to drill rows during sowing, as an equally important factor for raising the winter hardiness and yields of winter grain crops. Unfortunately, however, the required amounts of mineral fertilizer are not being made available and thus it often becomes necessary to lower the application norm for them.

Other farms in Tatishchevskiy Rayon have also had to rely upon an expansion of the winter crop fields. Winter crops were sown on 26,400 hectares in 1984, a twofold increase compared to the previous year -- one half of all of the grain fields. The sowing areas for rye and wheat were roughly equal. In the campaign for the future harvest, the farms are receiving fine assistance from workers attached to raysel'khoztekhnika and the associations of Sel'khozkhimiya -- the partners of the kolkhozes and sovkhoses of the agroindustrial association.

Proper work is being carried out with the fallow land at the Rassvet Kolkhoz in Dukhovnitskiy Rayon. Here, in behalf of the 1985 harvest, there are 464 hectares of planned clean fallow, all of which were plowed in the autumn of last year during the periods called for on the technological chart. Adequate quantities of organic fertilizer were applied to them.

Five cultivations, and on some tracts even six, are being carried out on the fallow land. This agricultural method made it possible to free the fields of weeds. Such cultivation also created simultaneously an excellent layer of mulch, which protects the soil moisture against evaporation. The last cultivation was combined with the establishment of a windbreak strip for snow retention purposes. Such strips were arranged in rows crosswise to the prevailing winds. Mustard seed was used for the windbreak strips. The farm's specialists consider mustard to be the best crop for this purpose. Sunflowers which were sown earlier did not produce the desired result. Mustard "works" in a rather reliable manner in carrying out the assigned task.

At the Leninskiy Put' Kolkhoz in Engelsskiy Rayon, 900 hectares of fallow land, or almost 12 percent of the overall area, are under cultivation. All of the fallow fields are being employed for winter crops. And a fine harvest is always obtained here. Even during this dry year that is now nearing completion, rye furnished more than 15 quintals per hectare on such land. But the results would have been better if the technology for tending the fallow land had been observed properly in all areas.

Additional and stable growth in the production of grain and other field crop husbandry products in the Volga region must be based upon the development of scientifically sound farming systems, which fully take into account the specific natural-economic conditions of an oblast, rayons or individual farms. The computations of scientists reveal that if the amount of clean fallow in our economic region, which includes such large grain oblasts as Saratov, Volgograd, Kurybyshev and Penza, was raised to the amount called for by the farming systems, the additional gross yield of grain here would amount to approximately 1 million tons. And as a result of this factor alone, the overall income of the kolkhozes and sovkhoses would increase by 75 million rubles. But this result would be achieved only if strong concern was evidenced for the land. We are still encountering frequent violations of the technology employed for tending fallow land. Let us take the last 4 years. It was only in 1983 that the average yield obtained from fallow land throughout the oblast was comparatively high: winter wheat furnished 27.2 and rye 17.9 quintals per hectare. And in 1981-1982 the winter wheat yield amounted to only 12.7 and 16.4 and rye -- 12.2 and 14.4 quintals per hectare. Nor is it any higher this year. The principal reason for this is the inadequate tending of the fallow lands. The principal guilty parties in this regard are the workers and specialists of the farms and agricultural administrations. The absence of a system of machines and fertilizer shortages

in a number of rayons are also causing concerned grain growers to violate the technology. The oblast is presently suffering from a severe shortage of cultivator-deep rippers, cultivator-sweeps and heavy disk harrows. The farms are being poorly supplied with plows for the K-700 and T-4 tractors. A similar misfortune has occurred in the case of mineral fertilizer; only limited amounts of nitrogen and phosphorus fertilizer are being made available.

A chief reserve for farming in the steppe region of the Volga area is a zealous attitude towards the use of clean fallow. Success in this area will serve to ensure stable growth in grain production and it will make it possible to convert over to the effective programming of yields and to achieving unconditionally the level of grain production called for in the Food Program.

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CSO: 1824/373

MAJOR CROP PROGRESS AND WEATHER REPORTING

GRAIN SOWING CONCERNS, CONDITIONS, METHODS IN SARATOV OBLAST

Moscow SEL'SKAYA ZHIZN' in Russian 30 Apr 85 p 1

/Article by A. Mochalov, Saratov Oblast: "According To the Sowing Law"/

/Text/ This year the farmers in Fedorovskiy Rayon intend to obtain 20 quintals of grain from each hectare. And the sowing work is proceeding well at the present time. Their example is being followed by farms in Yershovskiy, Sovetskiy, Novouzenskiy, Samoylovskiy and other rayons.

Throughout the oblast as a whole, where spring crops are grown on almost 4 million hectares, 38,000 tractors, including more than 5,000 Kirovets machines, have been made available for carrying out the sowing work. All of this equipment has been combined into complexes, the number of which exceeds 1,300. Approximately 50,000 machine operators are assigned to these complexes. Municipal patrons have assigned roughly 3,000 tractor operators to temporary duty in the countryside. The competitors are motivated by the same desire -- to complete the sowing of early crops in the near future.

Certainly, special attention is being given to the need for ensuring that high work rates do not take precedence over quality. This situation is being monitored by the agronomists, party organizers of sowing complexes, deputy posts and by the people's controllers. On each farm in Krasnokutskiy Rayon the control service is manned by party, war and labor veterans. Appropriate certification has been issued to them in the rayon CPSU committee. As a group, these veterans are knowledgeable and meticulous and one cannot conceal from them any adverse aspects of the work.

I visited the fields of the Kolkhoz imeni Komintern. Work is proceeding especially well here in a brigade headed by one of the oblast's better known grain growers, A.A. Gaydukov. Glancing at a row of wide-swath units advancing towards us from the horizon, Andrey Andreyevich could not contain himself as he stated with satisfaction:

"They are performing well!"

This was the last plot for the sowing of early grain crops and Andrey Andreyevich could not conceal his joy. The sowing work had been carried out successfully in damp soil and on all 3,600 hectares, including on 800 hectares set aside for durum wheat. The machine operators spent less than 80 hours in carrying out the

work. Use was made of SZS-2.1 stubble field sowing machines which, as the saying goes, immediately pleased Gaydukov. But there was one circumstance which forced him to hesitate and think over. He shared his thoughts with the chief agronomist and the kolkhoz chairman. Together they carried out some computations. It turned out that the brigade leader was correct: ribbon sowing would not ensure uniform utilization of the nutrients accumulated in the soil and, as a result, the yield potential of the fields would not be realized fully.

After installing a cone-distributor and reflecting screen on each pawl, Gaydukov achieved more uniform placement of the seed. When the principal technological requirements are observed, this method makes it possible to increase the grain yields considerably. This experience was followed by other farms in Krasnokutskiy Rayon. This innovation was evaluated for its true worth in neighboring rayons -- Sovetskiy, Pitserskiy and others.

The members of Gaydukov's brigade are known throughout Saratov Oblast as experts in obtaining high yields of millet. During any year in the Zavol'zhe region, they obtain no less than 20 quintals of the grain of this crop from each hectare. This year the Saratovskoye-3 millet variety is being grown on 800 hectares. As usual, the fields are being worked 4-5 times using harrows with sections from corn combines and the need for cultivation has disappeared. The accepted technology solves two tasks -- moisture is retained and weeds are destroyed completely. The seed is moistened in advance and sown using the broadcast method.

Today all of the arable land in Krasnokutskiy Rayon has been assigned to contractual collectives. Of 194,000 hectares of such land, 85,000 have been set aside for early grain crops. For the purpose of accelerating the sowing rates, use is being made mainly of wide-swath units; two thirds of the sowing machines are of the stubble field type. The SZTs-3.6 six unit sowing assembly, with its wide swath of 21 meters, has been moved out onto the fields. All of this is making it possible for the machine operators to exceed their shift norms by a factor of 2-2.5.

This year the areas set aside for strong varieties of soft wheat and also for durum wheat have finally been expanded to the required amounts. Strong control is being exercised over the entire agricultural complex in the interest of ensuring that high quality grain is obtained in all areas.

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CSO: 1824/373

MAJOR CROP PROGRESS AND WEATHER REPORTING

UDC 631.6

APPLICATION OF PHOSPHOGYPSUM TO SOLONETS SOIL RECOMMENDED

Moscow SEL'SKOYE KHOZYAYSTVO ROSSII in Russian No 2, Feb 85 pp 46-47

/Article by B. Plyasov, chairman of the Kray Stavropol'sel'khozkhimiya Association, L. Karandashov, deputy director of the Stavropol Kray Chemicalization Station, candidate of agricultural sciences, and A. Burlay, chief of the department of the kray chemicalization station: "Phosphogypsum as Ameliorant"

/Text Solonets land in Stavropol Kray occupies 1.5 million hectares, including 855,000 hectares of arable land. Its salinization is of the chloride-sulfate type. As a rule, this is low-sodium land with a deep occurrence of ground water. In Stavropol it most often occurs in Andropovskiy, Mineralovodskiy, Kochubeyevskiy and Shpakovskiy rayons. Most of it is of a heavy mechanical composition.

Harvests on such land are low. For example, winter wheat produces on it one-half of the grain produced on surrounding zonal soil.

The reason for the obviously insufficient fertility lies in the unfavorable chemical and agrophysical properties of solonets soil. In the dry state it is compact and cloddy and in the moist state, viscous. The low porosity and water permeability interfere with the normal development of plants. Solonets land dries slowly. Therefore, the periods of its cultivation are limited. The plowing layer is characterized by low agrochemical indicators. In particular, the amount of mobile phosphorus per kilogram of dry soil reaches only 4 to 12 mg, whereas the content of magnesium and sodium in the soil absorbing complex often exceeds 50 percent of the sum total of absorbed bases.

The chemical method of solonets reclamation is the most widespread method in the chernozem zone. It is based on the fact that, in order to increase the ratio of exchange calcium to magnesium and sodium, calcium-containing materials are applied to soil. True, this method is effective when the average annual amount of precipitation is no less than 400 mm, or with irrigation (incidentally, it is the only effective method of reclamation in case of occurrence of calcium salt at the depth of more than 45 cm, when existing tools for reclamation plowing cannot mix it with the solonets horizon).

What else can farmers undertake for the reclamation of solonets and strongly solonetsic soil?

Scientists at the Stavropol Scientific Research Institute of Agriculture and at the kray affiliate of the Kuban'giprozem Institute recommend the application of phosphogypsum. Depending on specific soil conditions the dose of this ameliorant fluctuates from 5 to 25 tons per hectare.

Such recommendations are based on a long-term experiment. Work on a fundamental improvement in solonets soil in the kray was begun as long ago as 1963. Gypsum of Dzhegutinskiy, Shedokskiy and Kuybyshevskiy combines and clay gypsum from open pits were used as ameliorants initially. Phosphogypsum of the Nevinnomyssk Azot Association began to be widely used as of 1976.

Phosphogypsum is the waste of industrial production of mineral fertilizers. It consists of calcium sulfate dihydrate and contains admixtures of undecomposed phosphate, phosphoric acid and clay compounds. In order to reduce the content of moisture in it, it is dried off. In the Azot Association phosphogypsum accumulated in spoil banks corresponds to the technological conditions of gypsuming to the greatest extent. There are more than 3 million tons of phosphogypsum here.

This ameliorant contains an average of 94.5 percent of gypsum dihydrate and 8 percent of hygroscopic moisture. Furthermore, its composition includes water-soluble phosphorus at the rate of 1.5 to 1.7 percent. Owing to this component gypsuming is well worth it, because phosphogypsum is also a fertilizer. The acid reaction of phosphogypsum contributes to the assimilation of soil nutrients by plants. It also has another characteristic: The fluorine contained in it does not accumulate in toxic concentrations. For example, the grain of winter wheat grown on plots treated with gypsum contains only 0.0006 percent of it.

During 10 years associates at the Stavropol Scientific Research Institute of Agriculture studied the effect of different ameliorants and plowings on a change in the properties and increase in the fertility of solonets on kol-khozes imeni Ya. M. Sverdlov and imeni K. Ye. Voroshilov in Shpakovskiy Rayon and on the Nevinnomyssk Sovkhoz in Kochubeyevskiy Rayon. The research results showed the high effectiveness of gypsuming of solonets soil in the chernozem zone. Its physical and water properties improved considerably under the effect of chemical reclamation. The application of this ameliorant also changed the sodium-calcium ratio. The content of the former decreased and of the latter increased, which contributed to an improvement in solonets soil and to a growth ranging from 10 to 30 percent in harvests on reclaimed plots.

On the average, in 10 years the increase in grain output from the effect and aftereffect amounted to 4 or 5 quintals per hectare. The recovery of every ruble of additional expenditures during the period of reclamative improvement came to 2.2 rubles.

The practical experience of many farms indicates that, when the entire set of agrotechnical measures is observed, the application of phosphogypsum gives a perceptible effect. For example, on farms in Andropovskiy Rayon, where there are especially big areas of solonets land, the use of the ameliorant under discussion made it possible to obtain an annual increase of 10 to 20 percent in the harvest of agricultural crops. On the Nagutskiy Sovkhoz for many years

additional output of grain of winter wheat has amounted to 3 quintals per hectare, of winter barley, 4 and of green corn mass, 23. On the Vodorazdel'nyy Sovkhoz the harvest of sunflower seeds increased by 3.2 quintals per hectare and on the Rodina Kolkhoz, by 4.2. The yield of winter wheat after gypsuming totaled 27 quintals per hectare--4 quintals more than on control fields. Indicators are most impressive on the Yangul'skiy Sovkhoz, where during the 6th year after the application of 7 tons of phosphogypsum per hectare 26 quintals of winter wheat grain per hectare were obtained, whereas before reclamation no more than 9 quintals were obtained on this field. On the Kolkhoz imeni S. M. Kirov before gypsuming the yield of winter wheat was 12.8 quintals and after the application of phosphogypsum in doses ranging from 6 to 10 tons per hectare it rose to 17 or 18 quintals.

Today most specialists and machine operators agree that phosphogypsum has greatly changed--for the better, of course--the situation with the utilization of solonets soil. Whereas before it was begun to be applied at the most 45,000 hectares were treated with gypsum, in the last 8 years the area to which the ameliorant was applied increased to 294,000. In 1983 alone 35,800 hectares received 329,000 tons of phosphogypsum. It goes without saying that the agrophysical properties of solonets soil have improved significantly.

When planning work on gypsuming, special attention is paid to the selection of the most optimal and substantiated technology. Planning estimates are prepared a year before the beginning of reclamation and only after the performance of an additional soil examination. The materials obtained are reviewed without fail by specialists and scientists at the Stavropol Affiliate of Kuban'giprozem and at the Stavropol Scientific Research Institute of Agriculture, whose remarks are taken into consideration in the process of planning.

A set of machines making it possible to mechanize the entire technological process is used during the gypsuming of solonets soil. Phosphogypsum is applied by RUM-8, 1RMG-4 and KSA-3 spreaders primarily to fallow fields. Since the technological capabilities of spreaders do not make it possible to apply a dose of more than 6 tons per hectare, the operation is performed in two steps. This is how 81 percent of the entire cultivated area was gypsumed in 1983. Phosphogypsum is placed in soil by stubble breakers or plows at the depth of the arable layer. Technology demands without fail a deep nonmoldboard loosening of the solonets horizon in order to ensure the best conditions for plant growth. In turn plants contribute to the removal of sodium salts formed as a result of exchange reactions after the application of phosphogypsum. However, owing to the shortage of implements, it is not yet possible to carry out loosening everywhere.

Two technological variants of the delivery and application of this ameliorant are applied in the kray. The first is the reloading variant, in which phosphogypsum is delivered directly to the field, placed in clamps and then applied to soil. The second is the transshipment variant. In this case phosphogypsum arrives on a farm at the central warehouse, from where it is transported to the field, after which it is applied to soil. From the Nevinnomyssk Azot Scientific Production Association the ameliorant is shipped by motor transport and railroad.

Rayon scientific production associations for agrochemical services to agriculture perform the basic operations connected with the application of phosphogypsum. However, a correct and skillful utilization of reclaimed fields depends to a significant extent on the level of agrotechnology on each farm taken separately and on the sowing of solonets-resistant reclamation crops (especially during the first years after gypsuming). This largely explains the various results of application of phosphogypsum throughout the kray and on the experimental plots of advanced farms.

The use of this ameliorant is essentially a new matter. It requires further research and an improvement in agrotechnical methods. For example, in order to significantly increase the return on phosphogypsum, its application should be envisaged in the system of overall agrochemical field cultivation.

Work connected with overall agrochemical field cultivation on solonets soil was begun in the kray in 1983 and the first experiment showed, together with complications, the indisputable advantages of such an approach to field cultivation. It became clear that soil fertility could be brought up to optimal agrochemical indicators in a shorter time, as a result of which the conditions of harvest production would become more favorable.

Unfortunately, as yet not everything has been done to improve the technology of application of phosphogypsum on solonets soil in specific zones. For example, in the kray's chestnut zone no less than 8,000 hectares of solonets soil need gypsuming. However, there are no substantiated recommendations for the application of the ameliorant in this zone. The parameters of the chemical description of soil subject to gypsuming have not been determined to this day and this often leads to errors. A great deal of vagueness remains in the method of calculation of the doses of phosphogypsum for fields with different soil covers. The organizational aspect of this matter also leaves much to be desired. For example, it is necessary to organize a compulsory drying of phosphogypsum at the Nevinnomysk Azot Association. Loading sites near spoil banks, more productive spreaders and implements for nonmoldboard soil loosening are needed.

The solution of all these problems will make it possible to significantly increase the efficiency of application of phosphogypsum and will ensure an additional production of 240,000 to 250,000 tons of standard grain from the entire reclaimed area of solonets land. As noted at the October (1984) Plenum of the CPSU Central Committee, reclamation problems should not be examined only from the aspect of the development of land drainage and irrigation. It is a question of the utilization of the entire arsenal of cultivated farming. An important place in this arsenal is assigned to the gypsuming of solonets.

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CSO: 1824/376

MAJOR CROP PROGRESS AND WEATHER REPORTING

WORK ON INCREASED PRODUCTION OF WINTER WHEAT DISCUSSED

Moscow MUKOMOL'NO-ELEVATORNAYA I KOMBIKORMOVAYA PROMYSHLENNOST' in Russian
No 3, Mar 85 pp 7-10

/Article: "Result of Joint Organizational Work"/

/Excerpts/ A total of 591,000 tons of grain of wheat of strong varieties were purchased for state resources from the 1984 harvest in Stavropol Kray, which comprised 117.4 percent of the plan. This quantity of high-quality wheat is equal to the volume of its purchases in this kray during the 3 previous years taken together.

The high indicators are the result of implementation of sets of agrotechnical and organizational measures, as well as of a close interaction of kolkhozes, sovkhoses, grain receiving enterprises, state procurement inspectorates and other organizations forming part of agroindustrial associations.

Chief of the Stavropol Administration of Grain Products and the state procurement inspector in the kray discuss the extensive work on an increase in the production and purchases of wheat of strong and valuable varieties done by members of the kray agroindustrial association.

To solve problems concerning an increase in the volume of production and purchase of wheat of strong and valuable varieties for state resources in Stavropol, the kray party committee annually develops and approves overall plans for the sowing and harvesting of this grain.

A group for the organization of the acceptance of grain of wheat of strong and valuable varieties and high-grade seeds has also been established and approved. Similar groups have been established in rayons. In their daily work operational groups are guided by plans for organizational and agrotechnical measures for the production and purchases of high-quality wheat grain developed on every farm and in every rayon and kray. At the same time, principal attention is paid to selecting the best predecessors for the placement of winter wheat, promptly and qualitatively preparing soil and seeds, applying organic and mineral fertilizers, sowing on optimum dates, controlling pests, diseases and weedy vegetation, uncovering wheat of potentially strong and

valuable varieties by making a leaf diagnosis and, on the basis of its results, foliar topdressing, harvesting in a short time and selling grain to the state and checking the readiness of the material and technical base of farms and grain receiving enterprises for the acceptance, placement and processing of high-quality grain.

More than 1.5 million tons of grain were checked last year. A total of 567 samples from 114,400 tons of wheat were selected and analyzed in Blagodarnenskiy Rayon, 590 samples, in Petrovskiy and Sovetskiy rayons, 896 samples from 298,000 tons in Budennovskiy Rayon and from 151,700 tons of wheat in Ipatovskiy Rayon.

From last year's harvest the biggest quantity of wheat of strong and valuable varieties was accepted by collectives of the Budennovsk Elevator, that is, 93,000 tons, of the Ipatovo Elevator, more than 53,000 tons, of the Svetlograd Elevator, almost 66,500 tons, of the Divenskiy Elevator, 36,500 tons and of the Blagodarnenskiy Elevator, 74,800 tons.

The delivery of grain of wheat of strong and valuable varieties to grain receiving enterprises was made according to schedules coordinated between kolkhozes and sovkhozes, on the one hand, and enterprises, on the other. A total of 20 centers for the management of grain delivery guided the delivery of grain to the kray's grain receiving enterprises. A smooth delivery of grain to state bins in all the kray's 26 rayons on 1,236 heavy-freight trucks was ensured under their guidance.

The joint work of all members of the agroindustrial complex done in the kray ensures Stavropol's significant contribution to the fulfillment of the USSR Food Program.

by T. Priyma, chief of the Stavropol Administration of Grain Products

Winter wheat is the main grain crop in Stavropol Kray. It occupies almost 75 percent of the areas sown with grain crops in the kray. Bezostaya-1 is the basic variety of winter wheat cultivated on kolkhozes and sovkhozes. It accounts for 93.6 percent of the areas sown with this crop in the kray. Sowings of wheat of Odesskaya-51, Prikumskaya-36, Donskaya ostistaya and Partizanka varieties and some other varieties of strong wheat occupy the remaining area.

Soil and climatic conditions and the material and technical equipment of farms in the kray make it possible to carry out the production of winter wheat grain on a high level. A scientifically substantiated system of management of grain farming taking into consideration the features of land and other harvest-forming factors has been developed for every rayon under the guidance of the kray party committee and the executive committee of the kray soviet of people's deputies.

In the kray great importance is attached to the selection of the harvesting method depending on the state of crops and weather and other conditions and to harvesting in 10 to 12 calendar days.

Farms begin harvesting by the swath method during a period when about 50 percent of the wheat grain is at the stage of waxy ripeness with grain moisture of 30 percent and swath threshing 2 or 3 days after mowing. With the onset of full grain ripeness harvesting is continued by direct combining.

Fields, where wheat grain meeting the requirements of strong wheat is formed, are harvested first under all circumstances. To detect such fields, during the period of waxy ripeness of grain sheaves with grain (no less than 1 kg) are picked from the sowings of potentially strong wheat and preliminary analyses are made at laboratories of grain receiving enterprises. Their results are the basis for the determination of the order of field harvesting, placement of grain on the threshing floor and its processing and dispatch to the elevator.

This work is done by kolkhoz and sovkhos specialists jointly with laboratory workers at elevators and grain receiving enterprises, who are assigned to kolkhozes and sovkhoses for the harvesting period by the orders of their managers.

In recent years many of the kray's farms have given up the performance of preliminary analyses of wheat grain in this manner. They have built good covered threshing floors and place wheat grain on their grounds from each field separately. Under these conditions the order of field harvesting is determined according to the results of tissue and leaf diagnoses of plants.

From batches of grain formed on threshing floors laboratory workers of elevators or grain receiving enterprises together with farm specialists select samples in accordance with the existing method, which together with the label and mandatory indication of the name of the farm, the number of the department or brigade, field and variety and the weight of a batch are sent to the laboratory of a grain receiving enterprise for analysis. An analysis is made in the presence of the representative of a kolkhoz and sovkhos and of the rayon state procurement inspector. The results are recorded in a special journal and entered on a card of the form No 47, which is issued to the farm representative.

The delivery of wheat of strong varieties meeting the requirements of the All-Union State Standard from threshing floors is made according to a worked out and coordinated schedule only in the day time. At the same time, much attention is paid to a correct formulation of documents. Commodity and transport invoices for wheat of strong and valuable varieties are accompanied without fail by varietal certificates, all the essential elements of which are filled in strict accordance with the dates of registration and approval of crops.

To intensify all organizational work on an increase in the production of grain of winter wheat and on an improvement in its quality, special operational groups consisting of experienced specialists of farms, administrations of agriculture, state procurement inspectorates, grain receiving enterprises, the agrochemical association and other agricultural organizations have been established and function permanently under the kray party committee and in rayons under rayon party committees. Chief of the administration of grain products heads the operational group in the kray and chief state procurement inspectors, in most rayons.

In their daily activity operational groups are guided by the plan for the fulfillment of organizational and agrotechnical measures annually worked out on every farm and in every rayon and kray, as well as by the decisions and directives of kray and rayon directive organs. Under the guidance of the kray executive committee and the presidium of the council of the kray agroindustrial association operational groups pay special attention to personnel training on kolkhozes and sovkhoses for a preliminary inspection of grain on threshing floors, formation of batches of wheat of strong varieties, determination of its quality and control of the settlement of accounts for the sale to the state. Such a training of people annually takes place at laboratories of grain receiving enterprises and includes agronomists, brigade leaders, heads of threshing floors, weighers, laboratory workers and accounts and some other farm workers.

On the basis of the results of each year state procurement inspectorates in rayons and the kray perform an analysis and issue a bulletin of indicators of the quality and efficiency of the production and purchase of grain, which reflects the proportion of wheat of different qualities and the amount of additional receipts for a good quality of grain and of monetary losses for a poor quality of grain. The kray bulletin illustrates these indicators in terms of rayons and rayon bulletins, in terms of farms. These bulletins have become an effective tool of controlling the quality of grain, because owing to them every farm and rayon manager and specialist is able to see the results of work of his collective, to compare them with the results of work of other collectives and to draw appropriate conclusions.

The system of material incentives for managers, specialists and ordinary kolkhoz and sovkhos workers for an increase in the production and sale of strong and valuable wheat to the state has been applied in the kray for many years. In accordance with the decision of the presidium of the council of the kray agroindustrial association as of 1984 the system of material incentives is also applied for workers of grain receiving enterprises.

All this voluminous and purposeful work has given positive results. During the years of the 10th Five-Year Plan the average annual production of winter wheat grain in the kray increased by 13 percent as compared with the 9th Five-Year Plan and during 4 years of the 11th Five-Year Plan, by 22 percent. In 1981-1984 the increase in the production of such wheat in relation to the 10th Five-Year Plan increased by 7 percent. The average annual sale of winter wheat to the state increased respectively. During the 10th Five-Year Plan it was 15 percent higher than during the 9th Five-Year Plan and during the years of the 11th Five-Year Plan it rose by 37 percent.

The quality of grain also improved significantly and the proportion of wheat of strong and valuable varieties in the grain balance increased, for which the kray's farms received substantial amounts of additional funds and strengthened their economy. In 1976-1980 they received 107.7 million rubles of such additional payments. In order to net this sum at direct purchase prices, kolkhozes and sovkhoses had to additionally sell 1.4 million tons of wheat to the state. Its cultivation would have required an additional sown area of 733,000 hectares and about 70.5 million rubles.

The kray party committee together with the council of the kray agroindustrial association developed organizational and economic measures aimed at the intensification of the work on an increase in the production and sale of grain of wheat of strong and valuable varieties to the state in 1984. Three-day group seminars with managers and specialists of rayons and farms in the kray were held with the participation of the kray state procurement inspectorate in January-February. The work of operational groups was activated sharply. Reports by managers and specialists of the Stavropol'sel'khozkhimiya Association, the kray administration of agriculture, the plant protection station and the chemicalization station on their fulfillment of agrotechnical and organizational measures for the cultivation of grain of wheat of strong and valuable varieties, whose quality meets the requirements of the All-Union State Standard, were heard at meetings of the kray operational group.

Work on an increase in the production of wheat of strong and valuable varieties in Ipatovskiy Rayon was discussed with the participation of specialists of the kray state procurement inspectorate and the administration of grain products at the bureau of the kray party committee in May.

Continuous checks of the course of fulfillment of envisaged organizational and agrotechnical measures were made on kolkhozes and sovkhoses in more than 20 rayons in the kray. The kray executive committee with the participation of specialists of agriculture, the kray state procurement inspectorate and the administration of grain products held two selector conferences, at which shortcomings and oversights in work were discussed and ways of eliminating them were indicated. The STAVROPOL'SKAYA PRAVDA newspaper regularly published material of a recommendatory and organizational nature aimed at an increase in the production of high-quality wheat.

All work with winter wheat for last year's harvest was carried out at a better time and on a higher agrotechnical level on the kray's farms. Its sown area treated with organic fertilizers increased by 21 percent and the application of organic fertilizers, by 25 percent. The sowing of winter wheat with a simultaneous application of mineral fertilizers to rows increased by 29 percent. According to the results of plant diagnosis the volumes of foliar applications of mineral fertilizers doubled and the volumes of root application of mineral fertilizers increased by 70 percent. The tissue diagnosis of plants was applied for the first time on the kray's farms. Runways were better prepared for airplane operation.

In turn preparations for the acceptance of grain of wheat of strong and valuable varieties by grain receiving enterprises were made in the kray state procurement inspectorate. Seminar activities with workers of laboratories of grain receiving enterprises, state grain inspectors and inspectors of the rayon state procurement inspectorate were held. Problems of a correct determination of the quality of grain, the procedure of settlement of accounts for it with kolkhozes and sovkhoses, requirements on grain (all-Union state standards, instructions and directives) and new instruments for the determination of the quality of grain (MOK-1, the DVL-1 batcher, the GDF diaphanoscope and others) were studied at them. A total of 134 people were involved in such activities in 1984. For a more rapid and accurate determination of the standard and substandard composition of wheat grain working standards--control samples--were prepared in laboratories of every grain receiving enterprise. Specialists of the kray laboratory of the Hydrochemical Scientific Research Institute took part in this work.

In order to intensify the control over the work of laboratories of grain receiving enterprises and to provide practical assistance to their workers in the localities, specialists of the kray laboratory of the Hydrochemical Scientific Research Institute and of the state grain inspectorate went to the kray's farms and grain receiving enterprises during the period of harvesting and sale of grain to the state. In 1984 there were such trips to Sovetskiy, Budennovskiy, Ipatovskiy, Izobil'nenskiy, Novoaleksandrovskiy and a number of other rayons.

Such an organization of the work of the state procurement inspectorate and the state grain inspectorate contributed to the lessening of disagreements in the determination of the quality of wheat grain between farms and grain receiving enterprises in the kray. Whereas during the years of the 9th and 10th five-year plans the kray laboratory of the Hydrochemical Scientific Research Institute and the state grain inspectorate received up to 20 or 30 arbitration samples, essentially they do not exist at present.

State grain inspectors annually check the correctness of determination of the quality of purchased grain and the correctness of the settlement of accounts with grain deliverers. From the 1984 harvest a total of 5,490 receipts for 65 percent of the accepted wheat grain have been checked. The errors disclosed in the determination of the weight, quality and settlement of accounts by order of state grain inspectors have been eliminated and measures to prevent them in further work have been determined.

During the preparation of the material and technical base of grain receiving enterprises state grain inspectors investigated the preparation of every project, uncovered cases of deception and poor-quality repairs and excluded poorly performed work from state reporting. The course of preparation of grain receiving enterprises for grain acceptance was illuminated in kray and rayon newspapers.

As a result of the extensive work that has been done, despite the extremely difficult weather conditions in spring and summer of last year, the kray's workers were able to grow a fairly good harvest of winter wheat, including 600,000 tons of strong and 741,000 tons of valuable wheat. Kolkhozes and sovkhozes fulfilled the plan for the sale of wheat of strong varieties to the state 120 percent. For the delivery of wheat of strong and valuable varieties they additionally received 22 million rubles. The best results were attained by workers on farms in Apanasenkovskiy Rayon, where strong wheat comprised 97 percent of its total sale to the state, in Neftekumskiy Rayon, 87 percent, in Turkmenskiy Rayon, 82 percent, in Ipatovskiy Rayon, 72 percent, in Arzgirskiy Rayon, 64 percent and in Kochubeyevskiy Rayon, 58 percent.

The successes of last year did not lead to complacency by members of the kray's agroindustrial association. The appropriate preparation of soil, seeds and equipment was made for the sowing of winter crops for the harvest of the current year. Organic and mineral fertilizers were applied to winter wheat on fallow fields.

The sowing of winter wheat was carried out basically with seeds of the highest reproductions of the first category of the sowing standard with a simultaneous application of mineral fertilizers to rows at the best agrotechnical time.

Stavropol's workers are fully resolved to sell a substantial quantity of high-quality grain to the state in 1985.

by N. Maksimenko, state procurement inspector in Stavropol Kray

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MAJOR CROP PROGRESS AND WEATHER REPORTING

PREPARATIONS FOR FERTILIZATION DISCUSSED

Moscow SOVETSKAYA ROSSIYA in Russian 29 Mar 85 p 1

[Article by V. Lykoshin: "Concern for the Harvest, In the Central Chernozem"]

[Text] Over the past two years the Sel'khozkhimiya Association in Belgorod has built over 30 highly mechanized mineral fertilizer warehouses of 5000 tons capacity each. The association is now able to store all its own fertilizer, to make sure that it is stored and maintained in good condition and to sharply reduce expenditures for loading and unloading operations; it takes 10 minutes, for example, to unload a single rail car.

"There's still some snow on the fields," observes A. Ye. Zakurskiy, chief of the association's production department. "It's hung on a little longer this year than it ordinarily does, but it'll be gone soon and then we'll be able to get started with our fertilizing. This year our people are going to be top-dressing over 40,000 hectares of winter crops. We'll have 20 specialized links on this job. They're already ready to go into the fields. Our mechanized teams should be out in the fields now applying some 7 million tons of organic fertilizer; over a million tons have already been hauled out for today."

The Sel'khozkhimiya Association in Voronezh has supplies of more than 100,000 tons of ammonium hydroxide, which is a valuable nitrogen fertilizer, which it is holding in reserve for the beginning of field operations. It can do this because the distribution points have been built in all rayons in the oblast which offer the required capacities.

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CSO: 1824/334

MAJOR CROP PROGRESS AND WEATHER REPORTING

EQUIPMENT REPAIR DEFICIENCIES DISCUSSED

Moscow SOVETSKAYA ROSSIYA in Russian 29 Mar 85 p 1

[Article by G. Trofimova, inspecting engineer, RSFSR Glavgossel'tekhnadzor: "At Least through the Gate," "Before the Spring Sowing"]

[Text] The Sel'khoztekhnika Association in Kursk Oblast's Ryl'skiy Rayon specializes in wheeled tractor repair. Despite the fact that equipment on the restoration line is for the most part moving on schedule, the farmers here are not happy with the way their partners are performing; there are arguments about the condition of almost every tractor. Not long ago, for example, the mechanics turned a YuMZ-6 back over to the Rossiya kolkhoz. "Take it, it runs like clockwork," they were assured. But having been taught by bitter experiences in the past, the farmers decided to check for themselves. And what did they find? They discovered that the starter motor wasn't working and that the clutch hadn't been fixed. Representatives of the Znamya Lenina Kolkhoz also had to refuse one of their MTZ's: all the oil and fuel leaked out and the lights and signals weren't working.

We see no small number of examples of shoddy workmanship in the Sel'khoztekhnika Association in Kurchatov as well. The Krasnyy Oktyabr' kolkhoz finally recovered 780 rubles from the association for failure to satisfy complaints about defective work on schedule. The association was apparently unable to draw the proper conclusions from this experience, and it should have come as no surprise when the Dzerzhinskiy, Progress, Bol'shevik and other kolkhozes quickly brought suit against it as well, this time for excessive tractor downtime. In January and February alone the association paid these kolkhozes 5000 rubles.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

WINTER CROP CULTIVATION PRACTICES DESCRIBED

Moscow SEL'SKAYA ZHIZN' in Russian 27 Mar 85 p 1

[Article by I. Alekseyev, Kursk Oblast: "Winter Fields Await Attention"]

[Excerpts] "Most of our farms are applying soil dressing on an extensive scale this year," V. A. Kalugin, deputy chairman of the Medvenskiy rayon executive committee, points out. "They have reequipped an adequate number of their planters and have completely reconditioned their fertilizer spreaders and other implements as well."

Almost half a million hectares in the oblast are sown to winter crops. And there can be no single pattern of cultivation which can be applied to this area, what with the fact that the conditions under which these new crops are growing are by no means identical. The only generalization we can make is that they will all be getting their nitrogen fertilizer, primarily in the form of soil dressing. People throughout the area have been undergoing special training, preparing their implements and building up the stocks of fertilizer required. To prepare for the application of liquid fertilizer, farmers on Kirov Kolkhoz in Timskiy Rayon as well as on other farms have reequipped their seeders with tanks, tubing and feeder lines to the shares.

Last fall's growing season, prolonged because of the warm weather, did not permit the early-sown winter crops to accumulate the nutrients they need in the required quantities. Then the crops sown on a great many farms, particularly in the northwest and east, were covered by a crust of ice. This then left many plants in a weakened condition.

Seeds are now being prepared for the underseeding and the necessary changes made in the schedule of spring field operations. Farmers throughout the area are keeping a continuous eye on the condition of their winter crops and if necessary making changes in the operations plan. Final decisions concerning the extent of the areas which need to be reseeded and the amount of fertilizer to be applied will be made following an analysis of each field after the plants begin to grow again.

The agronomists are giving particular attention to the fields which are being cultivated by the intensive methods. These methods are being applied over an area of some 170,000 hectares, to include 50,000 hectares with permanent track. Farmers are applying more fertilizer during the early spring top dressing of these areas with the objective of increasing yields.

To stimulate the accumulation of gluten and protein in the grain, farmers are also planning two additional applications of top dressing, one during the stem formation phase and one more as the ears form and the grain begins to ripen. It is true, however, that at the present time there is no more fertilizer available for additional applications of top dressing. But arrangements are being made for more deliveries. If this can be done, oblast farmers will be able to increase their production of the strong, high-grade varieties of wheat dramatically. Last year saw the first procurement of 18,000 tons of this high-quality grain.

A strong barrier is being raised against disease, pests and weeds. Crops under a program of intensive cultivation will, of necessary, be treated with toxic chemicals. Herbicides, for the most part, along with other chemical means of protecting crops are being delivered, irrigation systems prepared and the necessary numbers of equipment operators organized.

Great importance is being attached to the effort to preserve the winter melt. By plowing furrows in the snow and mixing the soil in with the snow by driving their equipment through the fields perpendicular to the slopes, farmers will be able not only to reduce runoff, but to prevent their crops from being damaged and washed out.

Only a few days now remain before the beginning of full-scale field operations.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

KOLKHOZ PLANTING OPERATIONS IN BELGOROD OBLAST DESCRIBED

Moscow SEL'SKAYA ZHIZN' in Russian 26 Apr 85 p 1

[Article by SEL'SKAYA ZHIZN' correspondent A. Trubnikov, Belgorod Oblast: "Contract on the Planting"]

[Text] Maturation of the soil in the fields on Michurin Kolkhoz has been retarded by the heavy spring snow melt. The moisture, of course, has been appreciated. But the delay required maximum mobilization of manpower and equipment to make it possible to get the crops in on schedule. Within a day there were eight pairs of harrows in the perennial grasses and the fields which been plowed back in the fall, although they were, it is true, able to get into only certain areas. Four mineral fertilizer spreaders were able to begin top dressing the grasses, but about two o'clock in the afternoon the rain started to fall, so the motors on the tractors had to be shut down. The rain continued on into the next day. Only on the second day were the operators able to get back into the fields. By about 11 o'clock, as the soil began to thaw out, the fertilizer spreaders had to move to the winter crops for a short time: in the wheat fields under cultivation by the industrial methods the tractors could move without obstruction along the permanent track. Operators were able to top-dress the grass crops and harrow the winter fields without interruption. The pace of the work began to pick up, but then the operators had to alter their methods and operations. They were unable to get their planters into successful operation, because the soil would stick to the wheels and the shares. The areas sown to winter crops are getting particular attention. Tests are showing that, despite the ice crust, all the crops are surviving without the need for any reseeding. And this survival can be attributed to the high level of agrotechnical competence the people here have to draw on, timely planting back in the fall and to the gradually melting snow.

When I arrived at the kolkhoz the following day, the field operations were at last in full swing. Expertly maneuvering their equipment and taking advantage of every hour of good weather, the machine operators had already harrowed 2620 hectares, top dressed hundreds of hectares of winter crops and perennial grasses and planted a large area with early summer crops.

"In trying to cut down the time it takes for one operation or another," Mikhail Viktorovich Sergeyev, the chief agronomist here, told me, "we never lose sight of quality, which is always our first priority."

We found him in one of the fields assigned to Ye. N. Zakharov's independent link. A three-planter unit driven by V. V. Kudinov, a highly experienced operator, had just been refilled with pea seed and was moving back into the fields. Using a special soil gauge, the agronomist measured the depth to which the seed was being planted in a number of places along with the temperature of the soil. We then resumed our conversation:

"We have a record keeper, I. Ye. Yermolov, one of our experienced grain farmers, who is responsible for monitoring the quality of the performance of this planter unit. Deputies of the rural soviet or people's control personnel from among those working directly in the fields are assigned to monitor the other units of equipment. They will correct any deviation from proper sowing procedures right there on the spot."

"We employ the most effective agricultural methods here," V. F. Polulyakhov, the chairman of the kolkhoz, points out as he joins the conversation. "The soil which was levelled back in the fall has been so well dressed that we have dispensed with a number of operations. We skipped the presowing cultivation of our beet fields, for example, and simply worked them with the VNIISR harrows. This keeps more moisture in the soil, eliminates packing and cuts down in the number of operations."

V. I. Gorokhov, first secretary of the Ivnyanskiy Rayon party committee, pointed out to me that other kolkhozes in the area were also carefully reviewing their schedules and procedures with the objective of optimizing their operational methods, cutting as much time as possible off the periods required to accomplish their operations while at the same time maintaining the performance quality desired.

The extensive introduction of new practices and progressive forms of manpower organization in the fields help increase operator productivity and improve the efficiency with which tractors and implements are employed.

Machine idle time has been reduced to a minimum here in the rayon. This is a result of both the high quality of the repairs and maintenance performed here and the care taken to see that the planting and cultivating equipment are properly adjusted and the skill and expertise of the equipment operators, who in seminars and agricultural schools have been familiarized with the latest methods and techniques and the newest, most progressive technologies. Farmers everywhere are going over to the wider combinations of implements, which make it possible to take care of more rows at the same time. The Kuybyshev and 22d CPSU Congress kolkhozes, for example, are making the first move to the five-planter combination. All related operations have been fully mechanized as well. All planters are loaded by grain combines and seed loaders. But the real secret of the success which has been achieved here is to be found in the fact that 98 per cent of the land here is assigned to contract brigades and links, which have become the real masters of the land.

The collective contract is coming to form the basis of field operations in other rayons of the oblast as well. Independent collectives are now working some nine-tenths of the crop area. I would refer particularly to operations in Shebekinskiy, Volokonovski, Korochanskiy, Rakityanskiy and Belgorodski rayons.

Night shifts are now in the fields on all the farms; these shifts can prepare the soil and make it possible to devote all the daylight hours to the sowing.

Farmers in Belgorod Oblast moved quickly to trap as much moisture in the soil as possible and then moved without delay to get their cereal crops in; at almost the same time they had their beet planters in the fields and were able quickly to reseed the areas that had to be reworked in the winter crop fields.

Soil is now being prepared and fertilizer applied for the corn crop. Corn will be grown by the industrial methods on some 120,000 hectares, while the beet growers are applying this progressive approach to more than two-thirds of their fields. And the effort to achieve the high yields continues.

The decisions coming out of the April plenum of the CPSU Central Committee have generated a great upsurge of labor enthusiasm on the farms in the oblast. Farmers are trying to cut the time required to complete their spring field operations to the bare minimum, working for high yields and striving to fulfill with honor the socialist obligations they have undertaken for the final year of the five-year-plan period.

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CSO: 1824/334

MAJOR CROP PROGRESS AND WEATHER REPORTING

NEED TO EXPEDITE PREPARATIONS FOR SPRING SOWING DISCUSSED

Kiev SIL'S'KI VISTI in Ukrainian 12 Mar 85 p 4

[Article: "Speed Up Preparations Prior to the Spring Thaw"]

[Text] From all indications this year's spring will be delayed. In every territory of the republic all fields are still under a thick snow cover and in individual rayons the thickness of the cover reaches 55 centimeters. Thawing has only begun in Odessa and Crimean Oblasts.

Consequently, it may be concluded that the beginning of work on the fields will be somewhat delayed. This circumstance compels kolkhoz and state farm grain farmers--their partners in the agricultural-industrial complex--in preparing to go out into the fields to organize their manpower and resources in a way so as to carry out spring sowing and the care of winter and perennial grasses in the shortest time possible. Nevertheless, loss of time on spring fields may reduce the plants' growing period, which may affect the final result.

Problems connected with completing the preparation for work on spring fields and the tasks facing grain farmers in connection with the concluding year of the 5-Year Plan were examined at a meeting with the full Politburo member of the UkrCP and Secretary of the UkrCPs Central Committee I. O. Mozgovoy, and candidate member of the Politburo of the UkrCP and first deputy chairman of the Council of Ministers UkrSSR U. P. Kolomiyets, with directors of a number of republic ministries and offices.

In the course of the discussions it was noted that the attention of party organizations, state and collective institutions is presently focused on ensuring the increase in gross yield of grain, sugar beets, sunflowers and other agricultural crops, and on the unconditional fulfillment of the sales plans to the state. A great deal is being done towards this end. Farms are being provided with first-class seeds for spring grains; repairs on soil cultivating and sowing equipment and the manning of brigades and teams are being completed. Wide measures for the implementation of scientific-agricultural systems of crop farming, progressive technology in the cultivation of grain, industrial and vegetable crops, and improvement in the work of all agricultural teams serving the agro-industrial complex [APK] are being realized.

Along with this it was emphasized that in preparing for the spring sowing there were a number of shortcomings. Sixteen to 18 percent of the energy efficient tractors were not ready for the fields in Vinnitsa, Kirovograd, Mikolayev and Odessa Oblasts. And these same powerful machines, in which a far-reaching crop technology is concentrated, must decide the fate of the sowing and consequently the fate of the harvest itself.

A portion of the spray irrigation machines and irrigation machinery hookups are also not ready for the production season. The largest portion of machinery that is out of repair (10 to 15 percent) is in Crimean, Kherson and Odessa Oblasts. Seriously lagging in the preparation of their irrigation systems for the season are the organizations of the Ministry of Land Reclamation and Water Resources of the UkrSSR.

I. O. Mozgovoy pointed out to the directors of ministries and departments the insufficient provision of corn and potato seeds by farms. It was indicated also that in a number of oblasts there is no reserve supply of fuel and lubricants for the time of spring field work. Considerable blame for this is placed on the UkrSSR State Committee for the Supply of Petroleum Products and the republic State Committee for the Supply of Production Equipment for Agriculture.

Chemists who have not made the planned delivery of mineral fertilizers put grain farmers in a difficult position. The workers of the Rovensk and Dnieprodzerzhisk Azot Production Association, and the Stebnykivck Potash Plant are in arrears to the agricultural workers.

Also discussed in the course of the meeting were problems connected with the expeditious receipt of sowing material from state resources, the cultivation of winter crops and corn and the completion of efforts to increase the productivity of perennial crops.

Information concerning the problems raised was received from Ministers O. M. Tkachenko, V. M. Tkach, and I. I. Shmatolyan; Deputy Minister of the UkrSSR Fruit and Vegetable Ministry, O. T. Taranenko, V. I. Sakhnenko, chief of the Ukrainian agricultural chemistry enterprise, V. V. Kuyanov, deputy chief of the UkrSSR State Committee for the Supply of Production Equipment for Agriculture, Deputy Chiefs of UkrSSR State Plan V. M. Khalapcina and L. Ya Korniyenko, M. S. Kotenko, chief of the UkrSSR State Committee for the Supply of Petroleum Products and G. O. Bogdanov, chief of the Southern Division of the Lenin All Union Academy of Agricultural Sciences [VASNIL].

The republic-wide organs--Derzhplan [State Plan Committee], Derzhkomsil'gosp-tekhnitsa [State Committee for Agricultural Technology], Derzhpostacha [State Supply], and Derzhkomnaftoprodukti [State Committee for the Supply of Petroleum Products]--are charged with employing concrete and immediate measures for the timely provision to agriculture of reserves of rolled metal, steel, cast iron, pipes, fuels, lubricants and other materials.

The agricultural ministries, departments and their local organs were given the task to stimulate the efforts to supply kolkhozes and sovkhoses with high

quality seeds of all spring crops, taking into account the possible resowing of individual fields with winter crops, and also increasing reserves of oil products, mineral fertilizers, herbicides and insecticides. It was emphasized that success in the spring fields will be determined by people. In the days remaining before going out into the fields it must be made certain that the sowing units are manned with experienced tractor operator cadre; all conditions must facilitate their successful completion of work and they must be well familiar with collective contract production.

Strict adherence to agricultural schedules and quality of work done in the fields is being emphasized along with technology and a highly productive utilization of equipment.

12911

CSO: 1811/32

FREIGHT CARS CARRYING FERTILIZERS STAND IDLE

Kiev SIL'S'KI VISTI in Ukrainian 30 Mar 85 p 1

[Article by S. Shandar, SIL'S'KI VISTI correspondent, Odessa Oblast: "Freight Cars With Fertilizer Stand Idle," under the rubric: "A Warning Signal"]

[Text] Careful managers store mineral fertilizers and at the first opportunity top dress winter crops and apply the fertilizers in areas that will be sown in the future. But unfortunately, not everyone cares about the quickest way of getting the fertilizers to the fields. For a few days in the third 10-day period of March, three tank cars carrying ammonia water and complex fertilizers in short supply stood idle at the Sarata station. Due to the absence of a locomotive, rail workers were not able to deliver the materials on time to the delivery point. The stoppage was also dragged out because of an interruption in the supply of current to the electric pump. As expected, the Tatarbunarsk Rayon Agricultural Chemistry Enterprise (A. G. Korovel, chief) did not arrange for the unloading of the fertilizers consigned to it as it should have. One tank car was remembered only 5 days after its arrival at the station.

The Berezin station has surpassed the stoppage of fertilizer freight cars by several times the norm. The Tarutinsk Rayon Agricultural Chemistry Enterprise did not see to the unloading of the fertilizers within the established time period. There is no rush to deliver the fertilizers, which are simply "stored" under the [open] sky near the railroad, to the farms of the rayon. The unloading of fertilizers at Vyhoda station was significantly delayed by Bilyayivska Rayon Agricultural Chemistry Enterprise, (H. S. Filipov, chief).

During the months of January through February freight cars containing mineral fertilizers were being unloaded most slowly at Lyubashivka Station. Above normal stoppages of freight cars accounted for 868 freight car hours. For the first 2 months of the year the Ananyivska Rayon Agricultural Chemistry Enterprise recorded 482 freight car hours. And for 2 months overall the oblast agricultural chemistry enterprise was fined 9,568 rubles. Again in March more than 60 incidents of above-normal freight car stoppages were recorded.

It is known that fines are not paid from "one's own pocket." The matter should be arranged so that those immediately responsible are held both

administratively and financially accountable for the delay and waste of mineral fertilizers. The council of the oblast's agricultural industrial enterprise, national control committees, and the administration of the Odessa Oblast railroad must see to this.

Foremost attention must be given to each incidence of the holdup of freight intended for the spring fields.

12911

CSO: 1811/32

MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

PENZA REGION FALL PLANTING--Farmers in the Penza region are now cultivating the early growths of their winter crops. They have completed their fall sowing at the optimum times over some 700,000 hectares of arable [land], with the objective of increasing their grain production they have sown a substantial portion of their winter crop fields to fallow and well-fertilized predecessors. [Text] [Moscow TRUD in Russian 27 Sep 84 p 1] 8963

LIPETSK OBLAST FIELD OPERATIONS--Farmers in Lipetsk Oblast have begun top dressing their winter crops sown on clean fallow. [Text] [Moscow TRUD in Russian 18 Apr 85 p 1] 8963

LIPETSK WINTER WHEAT UP--Lipetsk area farmers are pleased with their winter wheat, which they are cultivating by intensive methods on some 130,000 hectares. Despite the hard winter, specialists from the oblast agricultural administration are estimating that only some 6 percent is going to have to be resown. The other fields, by comparison, are going to require reseeding to the extent of roughly one-third. Taking advantage of the light morning frosts, the machine operators are making rapid progress with the application of top dressing on the roots. [By S. Rozhmanov] [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 16 Apr 85 p 1] 8963

TAMBOV OBLAST WINTER CROP--Winter crops are being top-dressed in Tambov Oblast at an intensive pace now with the use of agricultural aviation. Fertilizer has already been applied to more than 200,000 hectares, or more than one-third of the area sown to winter crops here. Farmers are giving particular attention to the new crops they have planted in areas where the intensive methods of grain cultivation are being employed. Contract brigades and links have taken on the task of bringing in a successful harvest here. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 19 Apr 85 p 1] 8963

TAMBOV OBLAST'S PLANTING OPERATIONS--Unregulated collectives have begun large-scale planting of the early grain crops and annual grasses on the farms in Tambov Oblast. In an attempt to reduce the time required to perform field operations to a minimum, machine operators are working around the clock to prepare the soil and then planting throughout the daylight hours. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 25 Apr 85 p 1] 8963

CENTRAL CHERNOZEM WINTER MOISTURE CONSERVATION--To preserve the winter melts for the parched fields of the Central Chernozem is no less effective than a good spring rain. Machine operators around Voronezh are now engaged in this critical agricultural undertaking. As opposed to the "white plowing" they do in the winter, they are now cutting furrows and building up banks in spirals. This technique will make it possible to preserve more of the moisture on the plowed fields and the new winter crops. Operators are giving their attention first to the fields on an incline, where the snow melts earlier and quicker. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 23 Mar 85 p 1] 8963

VORONEZH OBLAST IRRIGATION PREPARATIONS--Each year sees more and more of the oblast's cropland included in the irrigation network. This has now grown to include 104,000 hectares. Voronezh land development specialists have already prepared the system for this year's irrigation and seen that the hydraulic facilities, canals, pumping stations and sprinkling systems are in proper working order. Some 1,850 sprinkling systems will be operating in the fields of the kolkhozes, sovkhozes and interfarm enterprises here in the oblast. The heavy snows this year have created favorable conditions for preserving large amounts of winter moisture in the ground. It is expected that the spring runoff alone will add some 500 million m³ of water to the ponds here. An adequate number of soil development specialists has now been trained and readied to service the irrigation systems. Some 2,700 specialists have taken the required training course, and many of them will be working on collective contract. [By A. Kat'kalov] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 2 Apr 85 p 2] 8963

VORONEZH WINTER CROPS TOP-DRESSED--Some 860,000 hectares in the oblast have now been sown to winter crops. Farms in the southern and central rayons, Bogucharskiy, Kantemirovskiy, Novokhoperskiy, Talovskiy, Pavlovskiy, Liskinskiy and others, are all now top-dressing their fields with nitrogen fertilizer using aircraft from the civil aviation fleet. Plans call for a substantial area of winter crops, over 500,000 hectares, to be top-dressed by the radical method. Voronezh grain farmers are giving special attention to crops sown in areas in which the intensive methods are being employed. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 14 Apr 85 p 1] 8963

BELGOROD OBLAST CONSERVES WINTER MELT--Equipment operators in Belgorod Oblast are working rapidly to keep as much snow as possible on the fields here. The heavy snow which fell here following the recent melts are making it possible to plow it in over a broad front. Farmers are cutting horizontal banks across the slopes and putting up movable wood screens in their winter crop fields to hold down the drifting snow. [Text] [Moscow TRUD in Russian 10 Feb 85 p 1] 8963

BELGOROD OBLAST COMPLETES EARLY PLANTING--Equipment operators in Shebekinskiy and Korochochanskiy Rayons have been the first in Belgorod Oblast to complete their early crop planting. Their success has been due to the use of wide equipment, efficient organizations of the work of the contract links and timely deliveries of seed and fertilizer. This has made it possible to shorten the interval between the soil-preparation and planting phases. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 23 Apr 85 p 1] 8963

ZAPOROZHYE OBLAST'S MOISTURE CONSERVATION--Zaporozhye Oblast--There is much snow this year on Zaporozhye fields. In order to retain a sufficient quantity of moisture in the soil, farms are carrying out snow retention. The work is accomplished by means of tractors equipped with snowplows. Especially outstanding are the tractor operators of Ilich Kolkhoz and the kolkhoz Zorya of the Vilnyanck Rayon. There are 100 and more hectares of "white plowed fields" attributed to V. Vashchuk, L. Volkov, and M. Avramenko of the kolkhoz Zorya. [By V. Simichich] [Text] [Kiev SIL'S'KI VISTI in Ukrainian 3 Mar 85 p 1] 12911

INCREASED FEED PROCUREMENT--Stavropol--Spring rainbows flashed over the vast irrigated land of Stavropol, which occupies more than 400,000 hectares of arable land. Having begun the irrigation season, reclamation specialists undertook under artificial rain to ensure everywhere higher output than during previous years. For example, a harvest equivalent to the yields of fodder oats of 85 quintals per hectare is to be gathered from fodder plantations. The attainment of such a goal makes it possible, without an expansion of sown areas, to increase fodder procurement significantly. /Text/ /Kishinev SOVETSKAYA MOLDAVIA in Russian 7 Apr 85 p 1/ 11439

SOIL PREPARATION FOR SOWING--Stavropol Kray--Despite the morning fog, cold white frost and sometimes even rain, we try to come to the field, to our truck and to machine shops as early as possible. What news does the agronomist have? The answer is the same as yesterday: "Soil is damp, even a caterpillar tractor skids on it." Yes, the dates of soil preparation for the sowing of row crops have now been postponed in the kray by almost ½ month. Nevertheless, even the protracted cold spring does not throw us off the efficient labor course. We try not to lose even 1 hour: We are putting the territory of the field camp in order and are checking our tractors once more. We are expecting a departure to the field any day now. /By V. Makarov, machine operator on the Rodina Kolkhoz/ /Excerpt/ /Moscow KOMSOMOL'SKAYA PRAVDA in Russian 14 Apr 85 p 1/ 11439

ORGANIC FERTILIZER APPLICATION--Stavropol--Machine operators in steppe Stavropol began the cultivation of areas left for fallow yesterday. At the same time, higher doses of organic fertilizers are applied to fields. /Text/ /Moscow TRUD in Russian 10 Apr 85 p 1/ 11439

MASS SOWING OPERATIONS--Saratov-- The mass sowing of grain crops at kolkhozes and sovkhoses in Saratov Oblast is being accelerated. More than 1,300 complexes consisting of approximately 50,000 machine operators are in operation out on the spring fields. The Yershov and Kalinin associations of raysel'khoztekhnika have organized around-the-clock watch standing for the repair teams directly out on the fields. /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 26 Apr 85 p 3/ 7026

POST HARVEST CROP PROCESSING

PROBLEMS IN FRUIT, VEGETABLE PRODUCTION

Evaluation of Production

Alma-Ata SEL'SKOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 8, Aug 84 p 26

/Article by V. Nenadov, head of the Department of Agriculture of the People's Control Committee for the Kazakh SSR: "Basis for Falling Behind"/

/Text/ The People's Control Committee for the Kazakh SSR carried out an inspection of all of the fruit-canning plants of the republic's Ministry of the Fruit and Vegetable Industry and this made it possible to evaluate the status of affairs in an objective manner and to uncover considerable unused reserves. The canned goods production plan for 3 years of this current five-year plan was underfulfilled by more than 54 mub's /million uslovnykh banok; million standard cans/. The production plans for tomato paste, tomato puree, tomato juice, jams, preserves, compotes, halva and corn sticks were not achieved. For example, the Michurin and Kaskelen plants in Alma-Ata Oblast (the directors are comrades G.F. Yusupov and A.A. Algashev) fulfilled their canned goods production plans by only 64 and 67 percent.

And what about quality? On the whole, only 18 percent of the output was classified as being of high grade quality.

There is no demand among the consumers for fruit paste and there is a shortage of jams, preserves and compotes. However, over a period of 3 years the supply of fruit paste exceeded the demand by almost 37 mub's, while the shortage in other valuable products reached 38 mub's.

This was caused not only by short deliveries of the raw materials required for producing jams, compotes and other valuable canned goods but also by the incorrect storage and use of these products. The production of such products is technologically more complicated. The fruit must be harvested in a timely and correct manner, it must be sorted properly and so forth. The handling of fruit paste is considerably more simple and it is packaged in larger containers. Hence, here we have more satisfactory indicators with regard to carrying out the production volume plan. It was by no means an accident that over a period of 3 years the plants of the Alma-Ata Agroindustrial Association of the Fruit and Vegetable Industry undersupplied the consumers in the amounts of 23 mub's of jam, 1.7 mub's of preserves and 2.1 mub's of compotes and yet they exceeded the required deliveries of apple paste by 23 mub's, for which there was no market.

In past years the raw materials were supplied by Minsel'khoz /Ministry of Agriculture/ and processed by Minpishcheprom /Ministry of the Food Industry/. At the present time, everything is being handled by the one ministry. The larger portion of the raw materials is being produced and processed by Minplodoovoshch /Ministry of the Fruit and Vegetable Industry/. But intra-plant control is extremely weak at a majority of the enterprises, the technology and sanitary rules are being violated in a crude manner and the raw materials are aimlessly being expended for the production of low quality non-standard products. Over the past 3 years the intra-plant service has rejected 158,000 rubles worth or more of canned goods. What will be the result of such control? In October of last year the Michurin plant shipped eight freight cars of tomato juice containing spore-forming microorganisms to the Kazbakaleytorq Base in Karaganda. The base did not accept this juice for more than 6 months and a fine of 66,500 rubles was imposed upon the plant. In 1982 the Konservtorq Base in Alma-Ata rejected 9,900 rubles worth of product from this plant and last year -- 186,000 rubles worth.

And then there is also the concern evidenced for quality at the Tyulkubas Plant in Chimbent Oblast (the director is Comrade O. Sheraliyev). Raw materials which have spoiled are made available here for the production of canned goods. Last year the organs of Gosstandart /State Committee for Standards of the USSR Council of Ministers/ rejected 134,700 rubles worth of low quality products produced by this plant.

Certainly, a portion of the rejected products could be used for secondary processing and yet this is not being done. Since 1982, almost 12,000 3-liter cans of tomato juice, which were rejected, have been held in storage at the Dzhannasharskiy Plant. At the Kaskelen Plant there are 16,500 cans of preserves, more than 27,000 liter cans of vegetable solyanka and 210 tons of semi-manufactured apple juice being held in storage. Moreover, 110 tons of the juice were produced back in 1981. All of this required expenditures of labor, money, fruit and vegetables.

No concern is being displayed at the plants for the established assortment of products. This violation has led to the overproduction and accumulation at storehouses of canned goods which are not in demand. More than 6 million rubles worth of such canned goods have accumulated at the Alma-Ata and Tyulkubas plants alone.

Proper preservation of the raw materials has not been organized. During the 1981-1983 period alone, 7,700 tons of fruit and vegetables over and above the norm for natural losses became spoiled and were written off during storage and processing operations at fruit canning plants. At the Alma-Ata plant, 686,000 rubles worth of fruit and vegetables became spoiled. More than one tenth of the raw materials procured was consigned to the dump heap at the Kaskelen Plant. In all areas, when assigning products to extended storage, the quality of the raw materials is not being determined nor are the documents or certificates being prepared.

Considerable losses are being sustained as a result of a low coefficient of use of existing capabilities. Over the past 3 years, for the branch as a whole, it amounted to 0.84, at the Kaskelen Plant -- 0.64 and at the Michurin Plant -- 0.53. Moreover the tasks for introducing new equipment and technologies into operations are systematically being disrupted and thus the quantity of modern

and productive items of equipment requiring installation continues to increase. More than 7 million rubles worth of such equipment has accumulated at the present time. The plants have been supplied with only one half of the storehouse space required for the storage of raw materials and finished products. Yet during the 1981-1983 period, there was almost no construction of such facilities.

With no improvements being carried out in the work of the enterprises, Minplodoovoshchkhov /Ministry of the Fruit and Vegetable Industry/ and its associations began implementing frequent corrections to the plans. Last year the profits plan for the Tyulkubas Plant was corrected five times and was finally approved on 2 January of this year. It was corrected three times for plants of the Alma-Ata Association. Unsatisfactory planning and accounting, the absence of thorough economic analysis and a lowering of exactingness and responsibility have produced a situation wherein plan fulfillment is decreasing and the production of high quality goods has dropped from 22 to 18 percent. Instead of 822,000 rubles worth of profit, losses amounting to 12.8 million rubles were sustained. In November 1983, upon the insistence of the organs of people's control, the head of the Fruit and Vegetable Base No. 12 in Alma-Ata G.F. Yusupov was removed from his post because of mismanagement, the spoilage of products, growth in non-production losses, shortages, theft and for losses inflicted upon the state. And then in January Minplodoovoshchkhov assigned him to serve as the director of the Michurin Fruit Canning Plant.

The People's Control Committee for the Kazakh SSR is holding the leading workers of Minplodoovoshchkhov and the plants accountable for their actions. Monetary fines have been imposed. The ministry has been tasked with examining the feasibility of making further use of a number of leaders and undertaking measures aimed at correcting the shortcomings uncovered during the inspection. Only a radical reorganization of Minplodoovoshchkhov will make it possible to increase its contribution towards carrying out the Food Program.

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Corrective Measures Undertaken

Alma-Ata SEL'SKOYE KHOZYAYSTVO KAZAKHSTANA in Russian No 3, Mar 85 p 18

/Article: "Basis for Falling Behind"/

/Text/ A critical article concerning the materials of an inspection carried out by the People's Control Committee for the Kazakh SSR at enterprises of the fruit canning industry of the republic's Minplodoovoshchkhov was published in our journal (Issue No. 8 for 1984) under the title "Basis for Falling Behind." The Editorial Board has received a response signed by Deputy Minister S.V. Voronin in which it is reported that the facts concerning non-fulfillment of production plans, the production of low quality canned goods, limited assortment and large-scale packaging and incidents involving violations of the technology and a weakening of intra-plant and departmental control were all set forth correctly in the article. Last year the processing enterprises experienced shortages in raw material resources, an absence of certain types of

fruit and vegetables and deliveries of low quality products. These facts affected to a considerable degree the carrying out of the production plan in the volume and assortment required and also the technical-economic indicators of the industrial enterprises of the canning industry.

The materials of the inspection were examined by the ministry's board, an order was handed down, measures were developed for correcting the shortcomings and disciplinary penalties were imposed upon individual workers attached to the ministry and enterprises. The inspection materials were discussed by the labor collectives of plants and during production conferences.

During the period devoted to preparing for the season, a considerable amount of new technological equipment was installed at the plants, including four highly productive lines for the processing of tomatoes and cucumbers and three automatic lines for the production of small tin cans. New canning departments were introduced into operations at sovkhozes of the Chirchik, Tselinograd and Alma-Ata oblast agroindustrial associations and existing departments modernized.

The measures carried out are making it possible this year to increase the production of canned goods in 0.5, 0.8 and 1 liter glass and tin containers. Twenty percent of the canned goods, mainly to satisfy internal requirements and for industrial processing, will be produced in No. 15 tin containers (10.5 kilograms).

During 9 months of last year the production of high quality canned goods amounted to 25 percent of the overall volume. A large amount of work concerned with improving the quality and assortment of the products is being carried out at the Sayramskiy, Alma-Ata and Taldy-Kurgan plants and at the Prigorodnyy Sovkhoz of the Dzhambul APO /agroindustrial association/. Measures have been undertaken in connection with the training and development of skilled workers for the leading professions, laboratory workers and ITR's /engineering and technical workers/.

The problems concerned with improving the quality and expanding the assortment of fruit and vegetable canned goods and adjusting shift accounting and reporting are constantly under the control of specialists attached to the ministry and associations, who visit the areas for the purpose of furnishing practical assistance. Measures have been undertaken aimed at strengthening the management of the Alma-Ata Agroindustrial Association, enterprises throughout the oblast and the Tyulkubas Fruit Canning Plant.

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7026

CSO: 1824/382

LIVESTOCK FEED PROCUREMENT

USSR APK COMMISSION CONSIDERS FEED PROCUREMENT PROBLEMS

PM211513 Moscow IZVESTIYA in Russian 19 Jun 85 Morning Edition p 2

[TASS report: "Agroindustrial Commission Session"]

[Text] A routine session of the USSR Council of Ministers Presidium Commission for dealing with problems concerning the agroindustrial complex on 17 June heard reports from V.K. Mesyats, USSR minister of agriculture, and L.B. Yerminev, first deputy chairman of the RSFSR Council of Ministers, on work to step up the rate of feed procurement on kolkhozes and sovkhozes.

It was noted that the union and autonomous republics, krais, and oblasts are taking additional steps to provide coarse and succulent feed for public stockraising and privately owned livestock. The majority of farms have planned to increase feed procurements compared with the volumes envisaged by the plans.

At the same time the discussion showed that a number of places are allowing a lack of organization in carrying out this work. The Central Chernozem and Povolzhye regions of the RSFSR and several oblasts of the Ukrainian SSR are letting slip the best times for carrying out the first grass cuttings. By the start of the haymaking on the farms of Volgograd, Orenburg, and Oral oblasts, the Kazakh SSR, the Tajik SSR, and the Turkmen SSR there was a considerable quantity of unprepared feed harvesting equipment. It is being used to a low level of productivity in Tambov, Kursk, Saratov, and a number of other oblasts. The water economy organizations and kolkhozes and sovkhozes of individual republics, krais, and oblasts, are making the mistakes of previous years: They are tending and watering the feed crops belatedly and to a poor standard. Enterprises of the Ministry of Machine Building for Animal Husbandry and Feed Production have failed to fulfill the targets set them for the delivery of feed harvesting machines and spare parts for them to agriculture.

The commission has demanded that the USSR Ministry of Agriculture, the USSR Ministry of Land Reclamation and Water Resources, and the republican and local organs of the Agroindustrial complex take steps

immediately to eliminate shortcomings in feed procurement and ensure everywhere the unconditional fulfillment and procurement of the volumes of their procurements.

The USSR State Committee for the Supply of Production Equipment to Agriculture, the Ministry of Machine Building for Animal Husbandry and Feed Production, and other machine building ministries have been instructed to organize the continuous and highly productive operation of all feed harvesting combines. The union republic councils of ministers and the construction ministries have been given instructions to accelerate the commissioning of new feed storehouses and the repair of existing ones.

The session examined measures for the further development of commodity fish raising as an important reserve in supplementing food resources and improving the range of foodstuffs. The decision taken points to the need for the USSR Ministry of the Fish Industry and its local organs to step up their attention toward the matter. The local soviet and economic organs must render effective aid to the fish industry enterprises in supplying them with cadres, providing them with material-technical facilities, and performing work for the highly effective use of ponds.

The commission comprehensively examined and approved the proposals of the USSR Gosplan for improving the organization of the liming of acid soils and increasing the production and supplies of liming materials for the purpose in 1986-1990.

Serious criticism was levelled against the leaders of the USSR Ministry of the Construction Materials Industry, the USSR Ministry of Ferrous Metallurgy, the USSR Ministry of the Food Industry, the USSR Ministry of Construction, the USSR Ministry of Land Reclamation and Water Resources, and other ministries which have failed to fulfill the targets for the commissioning of capacities and production and deliveries of liming materials for agriculture.

The proposals approved provide for the production and supply of liming materials to the countryside to be brought up to the volumes stipulated by the USSR Food Program.

The USSR Ministry of Agriculture, the USSR Ministry of the Construction Materials Industry, and the soviet and economic organs of republics, krais, oblasts, and rayons, have been told to organize the maximum use of existing local resources of industrial waste containing lime and of other materials suitable as reclamation agents for acid soil.

The corresponding draft resolution has been submitted to the USSR Council of Ministers.

The Commission adopted an extensive resolution on improving computerized information services and the use of computer technology at enterprises and in organizations of the agroindustrial complex.

LIVESTOCK

APK COMMISSION CONSIDERS MEAT, DAIRY INDUSTRY PROBLEMS

Moscow IZVESTIYA in Russian 4 May 85 p 2

/Article by Yu. Khrenov: "A Young Bull At a Departmental Boundary"/

/Text/ During a joint session of the committee for the agroindustrial complex of the Soviet of the Union and the Soviet of Nationalities, an examination was undertaken of the manner in which the USSR Ministry of the Meat and Dairy Industry is carrying out its state planned tasks for improving the use of agricultural raw materials, reducing losses and introducing waste-free technologies into operation.

As noted by the leader of the deputy preparatory committee Kh.T. Vel'di, the 1st deputy chairman of the Estonian Council of Ministers, who delivered a report during the session, this question is directly associated with the implementation of the Food Program. Indeed, Minmyasomolprom /Ministry of the Meat and Dairy Industry/ is responsible for the production of more than 40 percent (from a value standpoint) of all food products which we are producing. And these are the more valuable products, the demand for which is still not being satisfied fully. An improvement in the use by this branch of agricultural raw materials, especially milk and meat, a reduction in their losses and the introduction into operations of waste-free processing technologies -- beyond any doubt constitutes a strong reserve for augmenting the food resources.

Certainly, there was a valid reason for selecting the time for discussing this problem. Following the May (1982) Plenum of the party's central committee, which approved the Food Program, the branch carried out reorganizational work and it attempted to combine this work more with the requirements for developing the entire agroindustrial complex. This did not come easily. Nor have all of the desired results been achieved as yet. Meanwhile, the requirements are increasing. The new five-year plan lies ahead, during which new concerns will become quite obvious. Where will the "bottlenecks" be? What will have to be done in order to correct them? This, understandably, was the subject of the main discussion.

USSR Minister Ye.I. Sizenko, the branch leader, discussed in detail those factors which are most disturbing. This included the fact that the rates of growth for production capabilities are lagging behind the requirements and also the weak technical equipping of many enterprises. He recognized the fact that

the branch is converting over only slowly to the intensive path of development and that this is delaying solutions for the difficult tasks. In particular, the refrigeration economy is in unsatisfactory condition. More than 40 percent of the refrigerators have outlived their service life and are unable to maintain the required temperatures and some enterprises lack this extremely important item of equipment entirely. Certainly, this is having a noticeable effect and it is resulting in large losses and in a deterioration in the quality of the products. The minister mentioned that energetic measures are being undertaken within the branch aimed at correcting this situation. But today one's own efforts are simply not enough -- assistance is also required from the planning organs, Minfin /Ministry of Finance/, Gossnab and from the construction and machine building ministries. The deputies supported this method for handling the problem and yet they also underscored the need for making further use of all internal reserves.

One of the most urgent problems -- livestock procurements. The meat combines are distributed in an irregular manner and, as a result, the livestock must literally be transported over thousands of kilometers and this understandably only detracts from their condition. Deputy M.G. Motoriko, the Minister of agriculture for the Kirghiz SSR, stated that it is even impossible to compute the tremendous losses being sustained as a result of such transport operations. Moreover, the losses consist mainly of prepared meat. But poor transport operations is just one part of the problem. At the present time, they cannot be avoided. But why is it that newly arrived cattle must quite often have to stand in line for several days at the gates to the meat combines? Is this really also inevitable? Is it not possible to arrange the delivery schedules in a more efficient manner? It is possible! But this requires more firm coordination of the interests of the farms which raise the animals with the interests of the procurement specialists -- the enterprises of Minmyasomolprom /Ministry of the Meat and Dairy Industry/.

At the present time, the burden of all of the transport expenses and the expenses associated with the animals waiting on long lines is borne in the majority of instances entirely by the kolkhozes and sovkhozes. While the cattle are enroute and while they are waiting to be slaughtered, they continue to remain on their balances -- they are transferred over to the balance of a meat combine only after they have been slaughtered. And is this fair? Does it stimulate a system wherein the procurement specialists work in a more zealous, efficient and economic manner. No, experience indicates that this is not the case. "A rule should be introduced" stated M.G. Motoriko, "calling for the cattle to be transferred from one balance to another directly on the farms. The procurement specialists would then be more interested in maintaining the condition of the cattle and shortening the path leading up to the slaughtering operations, or at least more rapid. This would result in a savings of tons and tons of meat! The members of the committee were unanimous in their belief that this recommendation was deserving of support.

Cattle purchases from the population are still organized in a poor manner in a number of areas. This point was borne out in particular by deputy S.S. Gligor, chairman of the Kolkhoz imeni Zhdanov in Chernovtsy Oblast. "We are presently motivating the people" he stated, "in the interest of ensuring that each one maintains an animal and that a contract is concluded with them for the raising

of young kolkhoz bulls. The people undertake to do this and then later they are troubled by doubts -- they do not know what to do with the livestock raised. Certainly, this undermines the authority of one of the most important tasks we are facing today. The ministry is under an obligation to ensure that the procurement specialists facilitate the acceptance of cattle from the private plots. If this is not done, we may once again suppress this important source for augmenting the food resources."

The same "bottlenecks" and problems exist in the case of milk procurements. There is also a shortage of dairy plants and milk trucks and quite often the milk must be transported during intense heat over 200 or more kilometers. At times the farms and people experience difficulties in delivering their milk, even though it is known that the task of equipping a milk-receiving or milk-processing point is not as difficult as that of building a meat combine. "Formerly, such points existed literally everywhere in the rural areas, including even on small farmsteads" stated deputy F.T. Morgun, 1st secretary of the Poltava Oblast Party Committee, "later they disappeared and we are now all aware that this was wrong. I would like to know if the ministry has a plan for restoring this network?"

"Yes" replied Minister Ye.I. Sizenko, "Such a plan exists. This summer we are unfolding 20,000 additional such points in the villages. But we are certainly aware that this is only a small number. We will continue this work in the future."

The branch is also experiencing difficulties in the procurement of agricultural raw materials. And what about the processing? The discussion revealed that here there are also "bottlenecks" and a goodly number of unsolved problems. The deputies, in preparing for the session, studied thoroughly the status of affairs, including in the various areas, and this is what they noted.

The ministry is not persistently introducing progressive technologies into operations, technologies which make it possible to utilize raw materials more completely, to raise the yield of finished products and to improve their quality. For example, the dressing of meat in a culinary manner and packaging it in plastic made from polymer materials are being employed in a very limited sense. It still constitutes less than 1 percent of the overall deliveries to the trade network. A lag has developed in the production of poultry meat in eviscerated form, involving the waste-free processing of the poultry, as is done at leading enterprises.

A large reserve -- reducing losses during the refrigeration processing of meat. Modern methods make it possible to reduce meat shrinkage by 25-30 percent. However, by no means are these methods being employed in all areas; such methods are being used for processing less than one half of the meat products being made available for freezing.

Only weak use is being made of secondary raw materials in the meat industry. Thus the processing of meat is increasing while the yield of nutritional blood is even decreasing in some areas, despite the fact that it is known that it improves noticeably the taste qualities and nutritional properties of the products being produced in the canning, sausage and culinary production

operations. On the whole, less than one half of this valuable food resource is being used here.

A considerable amount of additional food products can be obtained from the complete processing of nutritional bone. However, according to the deputies, the branch is at the very beginning of the path in this regard. For example, what can be obtained from a ton of bone? The minister himself, Ye.I. Sizenko answered this question: 130 kilograms of protein, 120 kilograms of fat and 270 kilograms of phosphates, which are used for childrens' nourishment. But what are we obtaining today at a majority of the enterprises? At best -- 120 kilograms of fat. Certainly, experience and more zealous and thrifty management are available: In Estonia and Ivano-Frankovsk Oblast in the Ukraine, for example, the production of liquid bone broth has been organized for public catering -- only once again only weak use is being made of this system.

During the processing of livestock and poultry, considerable quantities of waste scraps are formed which could be used for augmenting the food resources in agriculture. However, by no means is the best use being made of these scraps, as borne out in particular during the session by deputy E.B. Priyemko, a milkmaid at the Rodina F.E. Dzerzhinskogo in Minsk Oblast. The production volumes for dry animal feed for livestock husbandry she said are increasing very slowly and the yield per ton of raw material for the branch as a whole is lagging noticeably behind the level achieved at leading enterprises.

There are still many shortcomings in the processing of milk and in the use of its resources. The plans for the production of dairy products with lowered fat content and with fruit-berry and vitamin additives are not being fulfilled. Only approximately one half of the skimmed milk, buttermilk and whey is being used for feed purposes. At the same time, the livestock husbandry requirements for whole milk substitutes are not being satisfied and, as a result, 12 percent of its gross production is being expended here when only 2-3 percent would be needed if the work was organized properly.

Those who participated in the session pointed out that the present level of branch development and operation is lagging behind the requirements of the times. Many improvements are required. If such improvements are not realized, the branch may become a restraining factor in the future with regard to the development of the entire agroindustrial complex. Indeed the complex is just that -- a complex -- with all operations being mutually related. If just one of the partners falls behind in its operational rhythm, the other partners are affected almost instantaneously.

The committee singled out Mirmyasomolprom and also those ministries and departments which can and must provide it with effective assistance. Their chief concern: to work in a more responsible manner and to perform better work.

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CSO: 1824/361

LIVESTOCK

INTENSIFICATION OF HOGBREEDING IN MOLDAVIA DISCUSSED

Moscow SVINOVODSTVO in Russian No 3, Mar 85 pp 11-12

[Article by V. Reshetnik, Moldavian SSR deputy minister of agriculture, under the rubric "The Food Program--Everyone's Concern": "Prospects for the Development of Hogbreeding in Moldavia"]

[Excerpts] In the Moldavian SSR hogbreeding is developing intensively, the capacities of hogbreeding enterprises are expanding and a close integration of science and production is occurring. With a consideration of the significance of this branch to the republic, the Progress Scientific-Production Association on Hogbreeding, having the capability of carrying out various operations, from pertinent scientific research to the introduction of production results, was created.

Hogbreeding supplies most of the meat in Moldavia--the proportion of pork in the meat balance is 50 percent. It will remain this high in the future as well because production capacities and a relatively strong feed base, with 55 percent of arable land occupied by grains, have been developed for this branch.

During a short period of time extensive measures have been carried out in the republic related to the intensification of hogbreeding and to its transition to an industrial base.

The process of industrialization of pork production is being implemented by means of the renovation of promising existing farms and of the building of new enterprises of the industrial type. In the republic already today over 80 percent of commercial pork is produced on an industrial basis. The transition of hogbreeding to an industrial base is accompanied by an improvement in all economic indicators of production and above all by growth in labor productivity by a factor of 5-8, by a drop in feed expenditures and the cost of production by a factor of 1.5-2 and by a sharp change in the nature and labor conditions of workers within hogbreeding.

Industrial technology is characterized by continuity and strict smoothness of the production process, uniform reproduction and fattening of the herd at all

technological stages, maximal use of the biological capabilities of hogs to multiply and grow rapidly, the possibility of maintaining the herd within an enclosed space with an artificial microclimate, optimal production mechanization and automation and high-quality and standard production.

At present in Moldavia there are 46 enterprises utilizing industrial technology for pork production, including 18 enterprises with a complete technological cycle of pork production; of the latter, 14 have the capacity to raise and fatten 54,000 head per year, one--44,000 and three--24,000. There are 28 interfarm enterprises with varying capacities, capable of fattening from 7,000 to 47,000 head per year; of these 22 enterprises operate according to a technology of a complete cycle of pork production and six are involved in fattening hogs.

Industrial hogbreeding in Moldavia has a significant effect on accelerating the pace of pork production and on improving the quality of pork. Thus, in 1985 in the republic's public sector it is planned to achieve a fairly high growth pace in pork production while maintaining the size of the herd at approximately 1981 levels. Here absolutely all growth will be achieved exclusively by means of obtaining and raising triple-breed and quadruple-breed hybrid young in enterprises which employ an industrial technology of pork production.

At the present time the enterprises of Progress NPO [Scientific Research Association] fully satisfy the needs of commercial enterprises for feeder hybrid young, and in the republic as a whole almost 80 percent of piglets are hybrids produced by inter-breed and linear-breed crossing with a high level of hybrid vigor. This makes a positive contribution to the effectiveness of production on the whole.

In interfarm enterprises such as Kriulyanskoye, Novoanenskoye, Grigoriopol'skoye and others, where the full program of hog hybridization has been assimilated, the results for 1984 significantly surpass 1981 indicators: by 9.5 percent in volume of pork produced per head, by 13.0 percent in average daily weight gain in the herd as a whole and by 39.7 percent in average daily weight gain of the feeder herd. Here the savings in feed per unit of weight gain equals 12 percent, the savings in labor expenditures--26 percent. The cost of 1 quintal of meat is 13.3 percent lower and the output of meat per carcass is 6 percent greater.

According to 1984 grading data, 77.5 percent of hog breeds, types and hybrids raised here consists of the Large White breed, and 22.5 percent of the total is made up of other breeds, types and hybrids raised for pork, including hogs of the Moldavian meat and bacon types, which comprise 12.7 percent of the total.

The results of control fattening show that animals of the Landrass breed are characterized by high fattening and meat qualities--they achieve a weight of 100 kilograms within 182-196 days, average daily weight gain comprises 668-687 grams, expenditures per 1 kilogram of weight gain equal 3.74-3.98 feed units, the thickness of lard over the 6th-7th thoracic vertebrae is 29 millimeters and the area of the "muscle area" comprises 32 square centimeters.

The progeny of hogs of the Estonian bacon breed reaches an average weight of 100 kilograms during controlled feeding over a period of 192-198 days with an average daily weight gain of 658-691 grams and with an expenditure of 3.75-3.90 feed units per kilogram of weight gain. It is characterized by good meat qualities, the thickness of lard at the 6th-7th thoracic vertebrae is 27-30 millimeters and the area of the "muscle area" equals 31-32 centimeters square.

Meat and bacon types of hogs developed in Moldavia are used for the development of hybrid animals in the capacity of paternal animals. These animals combine within themselves the best characteristics of their ancestors and high reproductive, fattening and meat qualities, including multiparousness--10.6-11.1 head per pregnancy, a milk productivity of 55.2-60.6 kilograms, a daily weight gain of 702-781 grams, an expenditure of 3.33-3.65 feed units per kilogram of weight gain and an age of 182-184 days when a live weight of 100 kilograms is achieved. At the contemporary stage of breeding with an output of meat equalling 60-62 percent there has been no record of syndromes that worsen the qualitative indicators of pork or the reproductive capabilities of animals.

Well-organized breeding work in the republic has improved the qualitative indicators in commercial hogbreeding. According to 1984 evaluation data, live weight of boars equalled 302 kilograms and of sows--245 kilograms; the number of piglets produced per pregnancy was 10.3 and the average weight per piglet at the age of 2 months was 19.4 kilograms.

Breeding farms and breeding enterprises annually produce 56,000-60,000 pedigree hogs, which not only fully meets the needs of hogbreeding complexes, reproducers and farms for replacement young but also enables us to sell young in Uzbekistan, Kazakhstan, Armenia, Georgia and other republics, krays and oblasts within the country.

Within the republic a system related to selection and hybridization in hogbreeding has been developed and introduced, thereby achieving continuity and a steady pace in the reproduction of high-quality products.

We feel that a task of priority importance is that of strengthening the feed base, and first and foremost that of increasing the production of forage grain, of procuring succulent feeds and vitamin-rich grass meal, and of utilizing green feeds and wastes from processing industries.

In 1984 1.6 tons of mixed silage were stockpiled per standard sow; 70,800 tons of grass meal, 58,000 tons of food wastes and 44,400 tons of grape and apple residue were produced and procured.

In recent years the shortage of protein in hog rations has become more and more perceptible. In order to solve this problem, the area in soybeans and legumes in the republic was increased (the proportion of soybeans in total volume of legume crops equals 18.9 percent) and this provides the opportunity to improve the composition and quality of mixed feeds, especially of pre-starter and starter feeds. In order to eliminate the protein deficit and

improve the sugar-protein ratio in hog rations lysine and molasses are widely used.

Feed is given to animals only in prepared form in all hogbreeding enterprises and on the hogbreeding farms of kolkhozes and sovkhoses. In the republic's enterprises there are 1,455 feed shops in operation; the state mixed feed industry and the mixed-feed plants and shops of Kolkhozzhivprom [Kolkhoz Livestock Industry Association] are capable today of processing grain into mixed feeds and enriched concentrated mixtures in quantities needed for livestock raising, receiving all forage grain from enterprises in return.

The results of scientific investigations and the work experience of the best breeding enterprises and hogbreeding complexes in the republic show that the following are necessary in order to further the development of hogbreeding:

- continued improvement of existing and development of new hog breeds, types and hybrids;

- an improvement in breeding work with plan breeds in order to achieve an average daily weight gain from the main breeds, types and hybrids of no less than 800-900 grams while expending 3.8-4.0 feed units per kilogram of weight gain;

- the implementation of inter-breed, inter-line and linear breed crossbreeding with a consideration of the best combinations of breeds and lines for producing crossbred and hybrid young characterized by great vitality in growth, good meat qualities and suitability for intensive fattening for meat and bacon purposes;

- the development of a stable and reliable feed base;

- the introduction of a progressive technology for raising piglets and for intensively fattening hogs;

- in enterprises of the meat processing industry, the introduction of scientifically-based regimens of pre-slaughter maintenance and technologies for processing carcasses of animals arriving from hogbreeding complexes. All of these problems are being dealt with in the republic.

We are carrying out extensive work to prepare highly-trained cadres of the mass professions in livestock raising. A progressive form of organization and reimbursement of labor--the brigade contract--is being introduced persistently. In 1984 152 livestock brigades and 223 links were operating according to collective contracts in the state enterprises of the Moldavian SSR Ministry of Agriculture.

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CSO: 1824/430

LIVESTOCK

JANUARY-MAY 1985 STOCKRAISING FIGURES REVIEWED

PM201418 Moscow EKONOMICHESKAYA GAZETA in Russian No 24, Jun 85
(signed to press 12 Jun 85) p 18

[Unattributed "Statistical Summary": "Stockraising on Kolkhozes and Sovkhozes"]

[Text] The editorial office has received the USSR central statistical administration's figures for the state of stockraising on kolkhozes and sovkhozes in January-May 1985.

The onset of the pasturing period has created favorable conditions for livestock units to boost the production of milk and meat on kolkhozes and sovkhozes. Properly organizing the feed production line, front-ranking farms are achieving high animal productivity for the lowest possible expenditure of resources. Their experience must be more fully utilized, and all reserves for raising the efficiency of stockraising must be activated.

I. Production of Livestock Products

In January-May of this year the country's kolkhozes and sovkhozes had the following results in the production of livestock products:

<u>Indicators</u>	<u>Jan-May 1985</u>	<u>Jan-May 1985 as Percentage of Jan-May 1984</u>
Meat production (sale of livestock and poultry for slaughter, live weight), thousand metric tons	7,210	106
of which:		
cattle	4,251	107
pigs	1,849	104
sheep and goats	181	104
poultry	929	108
gross milk yield, thousand metric tons	27,036	99.6
average milk yield per cow, kg	959	100.1
hen eggs, millions	22,775	101
average egg yield of laying hens, units	90	101

Kolkhoz and sovkhos meat production increased by 422,000 metric tons in comparison with the same period last year. Meat production increased on farms in all union republics except Uzbekistan, Tajikistan, and Estonia.

The greatest increase in meat production in the RSFSR was achieved by farms in Omsk, Volgograd, Belgorod, Magadan, Tomsk, Irkutsk, Chita, Sakhalin, Saratov, Ivanovo, and Kursk oblasts.

The gross milk yield in January-May 1985 was 95,000 metric tons less than in January-May last year (this period had 1 calendar day fewer than last year). An increase in milk production was secured by livestock unit workers in Moldavia, Latvia, Belorussia, Georgia, Lithuania, Azerbaijan, Armenia, Estonia, Turkmenistan, and Kazakhstan.

In the RSFSR the greatest increase in milk production was achieved by kolkhozes and sovkhoses in Kursk, Orel, Lipetsk, Belgorod, Kurgan, Kamchatka, and Magadan oblasts and Stavropol kray.

Egg production on kolkhozes and sovkhoses in January-May 1985 increased by 425 million in comparison with the same period last year. The greatest increase in egg production was achieved by farms in Tajikistan, Kirghizia, Georgia, and Kazakhstan.

II. Purchases of Livestock Products on Kolkhozes, Sovkhozes, and Other State Farms

<u>Types of Product Purchased</u>	<u>Purchased During January 1985</u>	<u>January 1985 as Percentage of January 1984</u>
Livestock and poultry (live weight), thousand metric tons	7,015	105
Milk, thousand metric tons	24,490	100.6
Eggs, millions	22,248	102

The volume of livestock and poultry sales to the state by kolkhozes, sovkhozes, and other state farms increased by 361,000 metric tons in January-May 1985 in comparison with the same period last year. The farms of most union republics except Uzbekistan, Kazakhstan, and Estonia increased livestock and poultry sales.

In the RSFSR, the largest increase in livestock and poultry purchases was achieved by farms in Omsk, Volgograd, Belgorod, Tomsk, Kursk, Ivanovo, and Irkutsk oblasts.

Purchases of milk and dairy products increased by 143,000 metric tons. The greatest rate of increase in milk purchases was on kolkhozes and sovkhozes in Moldavia, Georgia, Latvia, Armenia, and Belorussia.

In the RSFSR milk sales increased on kolkhozes and sovkhozes in Orel, Kursk, Lipetsk, and Kurgan oblasts, the Dagestan ASSR, Tambov, Belgorod, and Vologda oblasts, and Stavropol kray.

Egg sales to the state in January-May 1985 increased by 346 million in comparison with the same period last year. In terms of the rate of growth of egg purchases the leading farms are those of Tajikistan and Kirghizia.

III. Production and Purchases of Livestock Products by Union Republic

<u>Union Republic</u>	<u>Jan-May 1985 As Percentage Of Jan-May 1984</u>					
	<u>Production</u>			<u>Purchases</u>		
	<u>Meat</u>	<u>Milk</u>	<u>Eggs</u>	<u>Livestock and Poultry</u>	<u>Milk</u>	<u>Eggs</u>
USSR	106	99.6	102	105	100.6	102
RSFSR	105	98	102	104	99	101
Of which the Non-Chernozem Zone	101	98	100.7	104	99.2	101
Ukrainian SSR	109	99.9	102	109	102	102
Belorussian SSR	113	106	100.6	113	105	102
Uzbek SSR	82	82	104	83	87	97
Kazakh SSR	101	100.5	105	99	101	102
Georgian SSR	106	106	107	109	110	101
Azerbaijan SSR	108	103	99.6	108	103	101
Lithuanian SSR	106	104	103	104	103	105
Moldavian SSR	110	109	103	110	111	102
Latvian SSR	113	107	96	113	107	99
Kirghiz SSR	125	96	114	120	98	109
Tajik SSR	99.8	98	119	100.6	100.6	117
Armenian SSR	109	102	95	111	107	94
Trukmen SSR	108	102	97	121	103	102
Estonian SSR	99.99	102	96	99.7	102	97

In addition, procurement organizations purchased 188,000 metric tons of livestock and poultry and 264,000 metric tons of milk from the population's personal plots.

IV. Livestock Numbers

As of 1 June 1985 there were 98.9 million head of cattle on kolkhozes and sovkhoses, which is 136,000 more than on the same date last year. There were 29.7 million cows. The pig population totaled 57.8 million, which is a reduction of 2.3 million. Sheep and goats numbered 143.5 million. The number of poultry was 796.0 million, which is an increase of 2.2 million.

Feed harvesting time is now upon the kolkhozes and sovkhoses. Now it is very important not to waste time and to make the utmost use of each hour of good weather to lay in as much high-quality feed as possible, and hay in particular.

Vast areas of natural hay fields exist on kolkhozes and sovkhoses in Russia's non-chernozem zone, Belorussia, the Ukraine's woodlands, the Baltic region, and many regions in Siberia. They must be given the same attention as fields sown to feed crops.

The initiative by farms in many regions, which are pledging substantial overfulfillment of the feed procurement plans, deserves comprehensive support, Kirghizia's kolkhozes and sovkhoses, for example, intend to lay in 18 months' reserves. The rayon agroindustrial association partners, especially Selkhoztenkhnik, on which the operational ability of feed procurement machinery depends, are called upon to make a great contribution to this work.

It is currently an intensive time in the fields sown to corn, feed beet, and other feed crops. It is important to ensure that they are carefully cultivated and that all technical facilities for their harvesting are ready in good time. The experience of front-ranking farms in various regions proves the high efficiency of skillfully maneuvering feed procurement facilities. The procurement of the largest possible quantity of diverse high-quality feeds is a guarantee of increased livestock productivity on kolkhoz and sovkhos stock units.

CSO: 1824/453

AGRO-ECONOMICS AND ORGANIZATIONS

UDC 338 984.4:63

CEMA SCIENTIFIC-TECHNICAL COLLABORATION IN AGRICULTURE

Moscow EKONOMIKA SEL'SKOGO KHOZYAYSTVA in Russian No 3, Mar 85 pp 33-37

[Article by S. Dimov, head of the Agricultural Department of the CEMA Secretariat, and V. Kozlov, department expert: "Scientific-Technical Collaboration Among the CEMA Nations in the Area of Agriculture: Achievements, Prospects"]

[Text] The Council for Mutual Economic Assistance (CEMA) was 35 years old in 1984. Both the fact of CEMA's establishment and the important successes achieved by the socialist commonwealth nations within the framework of this organization in various sectors of the national economy during that period are the result of the constant concern shown by the communist and workers' parties of the CEMA nations for their peoples and for the socialist commonwealth as a whole.

It was pointed out at the economic conference of the CEMA nations held in Moscow in June 1984 that as a result of the selfless labor of their peoples, under the guidance of the communist and workers' parties, the socialist commonwealth nations have significantly strengthened their economic and scientific-technical capability, implemented extensive social programs and brought about stable improvement of the people's welfare and the further development of science, education, culture, health care and social security. Agriculture in the CEMA nations has achieved significant successes. Its gross output increased 2.6-fold overall during the period 1951-1983 and increased by 54 percent during the period 1960-1980, including a 58 percent increase in grain production, a 1.8-fold increase in meat production, a 1.5-fold increase in milk production and a 2.3-fold increase in the production of eggs.

With 10 percent of the world's total population, the CEMA nations today have exceeded the world's average per capita industrial production level by more than 3-fold, surpassing highly developed states in the capitalist world in a number of respects. With 16 percent of the world's cultivated land, the commonwealth nations produce almost 30 percent of the wheat, 70 percent of the rye, 33 percent of barley, 44 percent of the oats, 65 percent of the potatoes and 50 percent of the sugar beets. They have 38.6 percent of the world's cattle, 19 percent of the hogs and 17.2 percent of the sheep.

Science has had and continues to have an enormous role in increasing production and improving the quality of agricultural products, reducing their basic cost,

making the work easier and increasing its productivity. Scientific and technical collaboration in agriculture accounts for approximately 7.5 percent of the total scientific cooperation among CEMA nations. The Permanent CEMA Commission for Collaboration in Agriculture, set up in 1956, has provided the practical foundation for organizing and developing this collaboration.

In the nations taking part in multilateral scientific and technical cooperation in agriculture, the main attention is given to the following: the development of new technology for performing the most labor-intensive processes involved in agricultural operations, including industrial technology for producing the main grain and industrial crops and the implements, machinery, crop and livestock management requirements for them, as well as for new types of fertilizers and plant protection agents, veterinary preparations and practical methods of using them; the development of new varieties of grain, vegetable, feed and other crops and breeds of livestock; the search for new ways to organize agricultural production using the latest means, including electronic computers, and others.

Regularly held consultations among leaders of the agricultural branches of the CEMA nations, with subsequent coordination of the departmental and national economic plans of those nations, have become an important prerequisite for the successful fulfillment of plans for scientific and technical collaboration within the framework of the commission. Such factors as integration of the work, the efficient use of scientific cadres and expensive laboratory equipment, and personal contacts among the scientists of those nations are also helping to accelerate the fulfillment of scientific plans for multilateral collaboration.

The initial stage of scientific and technical collaboration among the CEMA nations in agriculture involved so-called simple coordination. Without any sort of commitments by the collaborating parties and without the integration of a certain amount of participation by the nations in specific projects, the collaboration was not adequately effective. The experience had a positive effect on the subsequent organization of collaboration, however.

Eight agreements on scientific and technical collaboration (with the establishment of corresponding coordinating centers) were signed following the 1971 ratification of the Comprehensive Program for Further Intensifying and Improving Collaboration and Development of Socialist Economic Integration Among the CEMA Nations Within the Framework of the Permanent CEMA Commission for Collaboration in Agriculture for the Period 1971-1974. They included agreements on breeding work for the main grain crops, the adoption of chemical methods in agriculture, the use of electronic computers, international specialization and reciprocal use of the genetic stock of livestock breeds, preventive work and an effective campaign against hoof-and-mouth disease, the mechanization, electrification and automation of agriculture, the comprehensive mechanization of timber management projects, and the development of new plant protection agents.

Multilateral scientific and technical collaboration among the CEMA nations in agriculture during the period 1971-1980 involved practically all of its main

directions, including land cultivation and crop production, animal husbandry and veterinary science, the mechanization, electrification and automation of production processes in crop production and animal husbandry, agricultural economics, protection of man's environment and so forth.

In plant production and cultivation, work was performed on problems pertaining to the breeding of corn and pulse crops, vegetables, feed crops and corn, to agrochemical servicing and land reclamation, crop production and horticulture, and others.

In animal husbandry, the theoretical principles have been worked out and practical tasks performed in the development and use of livestock under contemporary farming conditions, and effective measures were studied and worked out for preventing and eliminating the most important livestock diseases occurring in the production of animal husbandry products on an industrial basis.

The technical subjects of collaboration involved reducing labor expenditures in animal husbandry, fruit, vegetable and grain production, reducing fuel and energy consumption and improving the quality of agricultural operations performed in field-crop production and animal husbandry.

From the beginning of the collaboration to 1980, 561 scientific projects were completed by organizations working together and recommended for adoption in production by interested nations, and 485 scientific projects were completed during the period 1976-1980. They included studies of the heterotic effect, the use of which greatly reduces time periods and amounts of work involved in hybrid breeding, particularly of corn, sunflowers, sugar beets, tomatoes and a number of other crops. Using the results of nuclear studies and isotopes in agriculture, important information has been obtained on plant metabolism, and methods for the pre-planting irradiation of seed have been worked out, which helped to increase their yield. Irradiating corn seed, for example, increases its yield by 12 percent, vegetables--15-40 percent, and this increases profits by up to 541 rubles per hectare. The results of the nuclear studies are being used for protecting plants against pests, including the sterilization of insects in the field and during the storage of agricultural products.

A number of projects have been completed for developing new grain varieties and hybrids with drought resistance and winter-hardiness, with short stems, with good resistance to diseases and viruses and with a large protein content. During the period 1976-1980, 182 new grain varieties were released for state strain testing, which surpass the standards with respect to yield by 3-6 quintals or more per hectare, and 78 varieties of wheat, rye, barley and triticale were recommended for use in the CEMA nations and acclimatized. A total of 300 new varieties have been released for state strain testing during the past 8 years, 120 of which have been acclimatized. During the period 1978-1980, plant breeders of the CEMA nations recommended for cultivation 43 new varieties of food grain crops and 51 varieties of other grain and groat crops, 29 varieties of triticale, 31 new varieties of potatoes, 6 varieties of corn, 16 varieties of cucumbers, 3 varieties of tomatoes, and others.

A system of measures worked out in the CEMA nations for harvesting seed sugar beets increases the yield by 2 quintals per hectare and the germination rate by 5-8 percent, and produces a total economic effect of up to 200 rubles per hectare. A new method of coating sugar beet seed provides a conditional net income of up to 7 rubles per hectare, and a method of propagating them without setting them out reduces the basic cost of the seed 2- to 3-fold.

Projects being completed by scientists of the collaborating nations as part of the problem "The Development of Effective Methods for Optimizing the Obtaining of High Yields by Using Means of Automating Control of the Technological Processes in Field-Crop Production" are important and closer to direct practical use.

The following important practical projects have been carried out in the area of animal husbandry: on the surgical and nonsurgical transplantation of cattle embryos, which will make it possible to obtain offspring and develop the industrial herds with young animals possessing the valuable productivity qualities of the donor cows; on the prevention of diseases in cattle being fattened; and on the cryo-preservation of cattle embryos. Stimulants have been detected, which increase live weight gains by 10-15 percent in calves being fattened and 10-12 percent in hogs. Furthermore, the fattening period is reduced for all types of animals by 5 to 15 days, and feed consumption per unit of live weight gain is reduced by 5-15 percent. Cattle murrain is reduced by 3-5 percent. The following have been recommended for adoption in production: synthetic nitrous substances as non-protein feed additives for ruminants; synthetic lysine and methionine for hogs and poultry; and light regimens in farrowing stalls and premises for sows and fattening hogs. Preparations and recommendations for their use have been worked out for regulating the reproduction processes of livestock.

Veterinary scientists have worked out measures for combatting the most dangerous infectious diseases. This includes hoof-and-mouth disease, against which active vaccines have been developed and are being produced. New methods have been discovered for the ultrafiltration of cells and for obtaining the highly purified, concentrated virus and anti-hoof-and-mouth vaccines for hogs, which provide strong and prolonged immunity. Vaccines have been developed against enterocolitis (colienteritis) in calves and pigs, as well as anti-enterotoxin vaccine.

A total of 26 plans for cattle complexes for industrial production have been developed and are being used in the CEMA nations.

In the area of mechanization, electrification and automation of the production processes in agriculture, scientists and specialists of the CEMA nations have worked out and recommended for adoption a system for regulating the microclimate in hothouses, effective means of mechanizing the transportation and loading operations, feed production and electric power supply machines, and other things. A great deal of attention is being given to the minimizing of grain losses during combining and at other levels of the technological grain processing chain. A forecast has been made of the development of agriculture equipment, which has defined the main directions of technical progress in agriculture in the CEMA nations to the year 2000. A standardized, combined system of

mobile power equipment has been developed and recommended for use, which has significant advantages over the existing equipment, including a lower cost for the mobile equipment and lower operating expenses.

A significant effect is obtained from the adoption of completed projects on the preparation of coarse fodder, recommendations for determining energy-intensiveness for the production of the main types of agricultural products, which take into account energy expenditures in the branches of the agro-industrial complex, and recommendations for making efficient use of energy and for using nontraditional sources of power. Research is underway into the use of solar energy in agriculture.

Important results have been obtained from the study of the effect of the running gear of agricultural machinery with respect to compacting the fields---that is, altering the soil characteristics. The adoption of recommendations on this matter promises to save a large amount of fuel and lubricants and to increase crop yields.

The study of the problem "The Development and Adoption of Mathematical Methods and Electronic Computers in Agriculture" has resulted in successes in the area of the automated processing of data on pedigree breeding work. The "Seleks-SEV" system has been used for developing national versions for processing data on pedigree breeding work, veterinary work and organizational work in the industrial production of beef and pork at large industrial complexes.

Methods and technical plans have been developed for using electronic computers for the optimal planning of the machinery and tractor pool, the efficient processing of production information and efficient control of the technical and technological processes involved in crop production and of management work at the enterprises.

It is impossible to imagine modern agriculture without the use of chemical agents. Scientists of the friendly nations have achieved significant successes in this area. New methods and programs have been developed for using electronic computers for developing recommendations on the use of fertilizers and various high-speed methods for analyzing trace elements in the soil and in plants. Standardized requirements have been worked out for the technological qualities of urea, as have recommendations for developing and applying various types of fertilizers, a standard plan for a mineral fertilizer storage facility and the necessary equipment for it. Highly active compounds have been discovered for combatting plant pests. A total of 319 new chemical preparations have been studied for combatting agricultural crop diseases and pests, 93 of which have been recommended for use in the agriculture of the CEMA nations.

The following have been accomplished in recent years with respect to the economic and organizational aspects of developing agriculture on an industrial basis: the directions and factors influencing the organization of agrarian-territorial complexes for industrial production and for processing animal husbandry products (milk, beef, pork and poultry meat) have been defined, and the "Methodological Principles for Developing the Second and Third Spheres of the Agroindustrial Complex" and "Collection of Terms and Concepts Pertaining to Interfarm Cooperation and Agroindustrial Integration" have been worked out. This work is continuing.

Environmental protection questions have been given a significant place in the scientific and technical collaboration. Measures have been worked out and recommended for combatting various types of soil erosion and for preventing the secondary salinization of formerly saline soil and preventing mineral fertilizers and plant protection agents from affecting the environment.

The fact should be mentioned that the "Plan for Collaboration Among the CEMA Nations in the Performance of Scientific and Technical Studies in Agriculture and Timber Management for the Period 1981-1985" is more extensive and comprehensive than plans included in the preceeding five-year plans. It includes 30 problems and 123 subjects, including three problems and 20 subjects, pertaining to the accelerated development of science and technology in the Republic of Cuba's agriculture, five problems and 22 subjects pertaining to the development of the Socialist Republic of Vietnam's agriculture.

A total of 399 scientific projects were completed in the collaborating CEMA nations during the first 3 years of the current five-year plan (1981-1983). They include the development of 121 varieties and hybrids of various grain crops, including triticale, and 64 varieties and hybrids of vegetables, the development 29 new machines and separate types of equipment, 10 new implements, 69 production technologies and methods for agriculture, 23 methods of protecting plants against pests and diseases, and so forth.

The new grain varieties produce high yields, have good winter-hardiness and good baking qualities and are more resistant to diseases and pests. The short-stemmed wheat varieties which have been developed have a higher content of protein (more than 16 percent) and lysine (more than 3 percent), and the flour contains more gluten (36 percent). The Obriy winter soft wheat, for example, has a potential yield of more than 70 quintals per hectare, the Polukarlikovaya 3 winter wheat--up to 100 quintals per hectare, and the Olimpiya and Kolos winter wheat varieties exceed the standard varieties under cultivation in yield by approximately 9 quintals per hectare. The new varieties of hard winter wheat recommended for cultivation in 1983--the Zagorka, Chirpan and Korall--surpassed the standard varieties in yield by 16, 19 and 25 percent respectively. The Korall has produced a yield of up to 91.8 quintals per hectare. The yield from the Debyut and Novator winter barley varieties exceeds 80 quintals per hectare, Parallelyum 402--60, and the Khar'kovskaya 78 winter rye--76 quintals per hectare. The Amfidiploid 257 V feed variety of triticale produces 800 quintals of green mass per hectare. New varieties of vegetables developed by specialists of the CEMA nations produce a greater yield and the product is of better quality than existing varieties. These include new varieties of potatoes (up to 400 quintals per hectare with a starch content of more than 21 percent), tomatoes (700-800 quintals per hectare), cucumbers and cabbage which can be harvested with machines.

A new method of cryopreservation of cattle and sheep embryos, which has now been introduced, permits lengthy preservation of the viability of 86 percent of the embryos. A new vaccine against enterocolitis in calves and pigs and ther vaccines have been developed. An energy-intensiveness has been established for individual processes and branches of agriculture, which produces a significant saving of liquid fuel. Machines such as a swath turner and collector, a haysweep, a pick-up and loading machine for hay, a fertilizer spreader

for mountain conditions, equipment which reduces grain losses on combines, and others have been developed. It is planned to complete more than 500 projects during the current five-year period, the results of which will be introduced into production. This will make it possible to enhance effectiveness for both individual farms and for the agriculture of the CEMA nations as a whole.

In the Statement on the Main Directions for the Further Development and Intensification of Economic and Scientific-Technical Collaboration Among the CEMA Nations, participants in the High-Level Economic Conference noted that there are considerable reserves for expanding collaboration in many areas, including more efficient use of the production and the scientific-technical capability of the fraternal nations. They outlined main, coordinated measures for further developing collaboration.

The agrarian policy is an inseparable part of the general political course of fraternal communist and workers' parties of the socialist commonwealth nations. This policy was reflected in the Long-Range Special Program for Further Improving Collaboration Among the CEMA Nations in Agriculture and in the Food Industry, which was adopted at the 32nd meeting of the Council Session in 1978, and in the Comprehensive Collaboration Measures to Improve the Supply of Food Products for the Populations of the CEMA Nations, which were approved at the 37th meeting of the CEMA Session in 1983. The realization of this program in the area of agriculture and food, which covers the period extending to 1990, is even now having a positive effect with respect to improving the supply of agricultural products for the population and raw materials for industry.

The Long-Range Special Program also covers such important aspects of collaboration as increasing the production of meat and meat products and the production of feed and biochemical additives for it, breeding new varieties and hybrids of the main agricultural crops, the development of new breeds of livestock, the development of essential agricultural equipment, and others. Considerable importance is attached to accelerating the development of science and technology and enhancing the effectiveness of production in agriculture and in the food industry of the Mongolian People's Republic, the Republic of Cuba and the Socialist Republic of Vietnam. Interested CEMA nations have signed agreements on multilateral scientific and technical collaboration in the breeding of corn with a view to developing early-ripening hybrids, seed production and the production of corn for grain and silage, as well as an agreement on the matter of increasing the production of animal husbandry products on an industrial basis.

The comprehensive measures at the center of attention of the corresponding agencies of the CEMA nations and the CEMA Secretariat, which were approved at the 37th CEMA Session, include 30 issues within the competence of the Permanent CEMA Commission for Collaboration in Agriculture. They are being dealt with on a comprehensive basis, with the participation of the Permanent CEMA Commissions for Collaboration in Machine Building, the Chemical Industry, the Food Industry, the Radio Engineering and Electronics Industry, and Construction, as well as scientific organizations of the CEMA nations. The development of new, industrial technology for cultivating and harvesting grain crops, new implements and laboratory equipment, transportation equipment and so forth, and the improvement of existing technology are of primary importance.

Fulfillment of the Long-Range Special Program for Collaboration in Agriculture and Food and the Comprehensive Measures is helping the CEMA nations greatly in the implementation of their food programs and will make it possible to further increase the production and improve the quality of agricultural products, thereby improving the supply of food products for the population and the structure of their consumption.

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CSO 1824/367

AGRO-ECONOMICS AND ORGANIZATION

PRICING POLICY ON AGRICULTURAL MACHINERY

LD132313 Moscow TASS International Service in Russian 0958 GMT 13 Jun 85

[Text] Moscow, 12 June (TASS)--Stability of prices of agricultural equipment is one of the principles of the Soviet state's economic policy. This was stated in a conversation with a TASS correspondent by Aleksandr Kirin, head of the prices department of the USSR Ministry of Agriculture. Basically, they have not changed for over 20 years. During that time the state has increased procurement prices for agricultural produce several times. All this helps to strengthen the economy of kolkhozes and sovkhoses, to develop their production, and to increase the income of agricultural workers.

Aleksandr Kirin recalled that wholesale prices for the means of production were revized in 1967 in order to increase incentives in financially autonomous areas of industry. For example, plants manufacturing tractors and trucks began selling them to other industries at higher prices. Prices have remained unchanged for the agricultural enterprises. The state covers from its own budget the difference for the manufacturing enterprises. It is the same with regard to agricultural machinery and mineral fertilizers.

When wholesale prices for construction and other materials were raised in 1982, procurement prices as a whole were raised by R5 billion to compensate agriculture.

For a Soviet agricultural enterprise to obtain a 55-horsepower tractor, Kirin said, it is necessary to grow and sell 24 metric tons of wheat, and a combine harvester requires 49 metric tons of wheat. Of course the machines are changing, are being perfected, and conditions of work on them are improving, and that cannot fail to be reflected in the price. But the organs involved in the policy of pricing keep a close watch to see that this is based on production costs and increased efficiency of the new machinery. The prices of tractors and grain combines of the same make have gone up by only 3 percent in the USSR since 1975.

CSO: 1824/456

AGRO-ECONOMICS AND ORGANIZATION

ESTONIAN AGROPROM OPERATIONS EXPLAINED, EVALUATED

Moscow EKONOMICHESKAYA GAZETA in Russian No 19, May 85 p 16

[Article by V. Shtanov, deputy chief of the Main Administration for Problems Concerning the APK [Agroindustrial Complex], USSR Ministry of Agriculture, and N. Filimonov, chief economist: "Estonian Agroprom"]

[Text] As was noted at the CPSU Central Committee Plenum in April, the management of the agroindustrial complex requires further improvement. Owing to the influence of interested agencies, the rayon and oblast associations often are unable to show the needed agreement in resolving problems of the overall growth of agriculture.

In this regard an experiment in refining the APK management mechanism, carried out the ESSR and discussed in this article, deserves our attention.

In order to improve agricultural management and that of its service branches and in the final analysis to increase the efficiency of production, an agroindustrial association (ESSR Agroprom) was founded in March 1983 in the ESSR. At the same time, almost half the organizational components and 12 percent of the workers of the central bureaucracy were eliminated and the ESSR Ministry of Agriculture, the State Committee for Agricultural Technology, the State Committee for Land Reclamation and Water Supply, the Union-Republic Ministry of Agricultural Chemistry and the organization of the poultry industry were abolished. This was accompanied by creation of joint services for construction, planning and economics, accounting, auditing and finance services, as well as the main administrations of transportation, labor and wages, science and propaganda, cadres and other branches.

Organizational Foundations

The activity of the agroindustrial association is administered by a presidium headed by the ESSR Agroprom chairman, who at the same time serves as first deputy chairman of the ESSR Council of Ministers. The presidium of ESSR Agroprom includes Agroprom deputy chairmen and the heads of the remaining ministries and departments included in republic APK as well as the deputy chairman of ESSR Gosplan.

The ESSR Agroprom Presidium is convened no less than twice a month. Problems affecting branches and interbranch questions are considered at its meetings. In connection with the creation of the ESSR Agroprom Presidium, the commission on agroindustrial-complex problems in the Presidium of the ESSR Council of Ministers was abolished.

A council with 56 members was created within Agroprom to review and resolve the following: potential developmental planning problems for branches of the agroindustrial complex, mobilization efforts to bring about more complete resource utilization as well as the steady growth of production volumes, purchasing and processing of goods and the improvement of efficiency within all branches of the complex. The membership includes, in addition to management-level workers of branches of the republic APK, the chairs of the RAPO councils and certain directors of sovkhozes, kolkhoz chairmen and managers of enterprises and organizations included in the republic agroindustrial complex.

A leading role in ESSR Agroprom falls to the economic service, which is administered by the first deputy chairman of Agroprom. The economic service set-up unifies the economic services of the eliminated ministries and departments and makes it possible to carry out all economic activity in a unified structure. The tasks of this service include the development of scientifically substantiated uniform plans for production, profits and profitability for all segments of Agroprom, resolution of interbranch problems, development of joint republic agroindustrial complex plans, as well as accounting and analysis of the economic activity of the association and its basic components.

ESSR Agroprom is made up of kolkhozes, sovkhozes, interfarm and other agricultural groups and enterprises; institutions and organizations in the production sphere, and also in production and technical supply, land reclamation, scientific-research and planning entities.

When ESSR Agroprom was founded, rayon-level enterprises of Sel'khoztekhnika [State Equipment Association] and Sel'khozkhimiya [State Fertilizer Association] were merged, it became possible to have unified enterprises to service kolkhozes and sovkhozes directly subordinate to RAPO. With respect to the remaining ministries and departments of the republic agroindustrial complex (Ministry of Procurement, Ministry of the Fruit and Vegetable Industry, Ministry of the Meat and Dairy Industry and others), ESSR Agroprom performs coordinating functions.

Enterprises in every rayon that service the kolkhozes and sovkhozes are now administratively subordinate to the ESSR Agroprom apparatus. The volumes of work and services rendered to these farms by the enterprises are based on the [service] claims submitted by the kolkhozes and sovkhozes. Plans for projects are reviewed and confirmed by RAPO councils.

The formation of the republic- and rayon-level agroindustrial associations made it possible to simplify the entire system managing the enterprises and organizations within the republic APK. Whereas before the creation of ESSR Agroprom land-reclamation projects in the republic required two departments the State Committee for Land Reclamation and Water Supply and the State Committee for Agricultural Technology, now the Main Administration for Land Reclamation has been organized for the supervision of these works within the structure of Agroprom.

Responsibility for Planning

Favorable conditions have been created for synchronization of branch and territorial administration principles. RAPO now has the overall responsibility for planning of state procurement of agricultural goods and deliveries of tractors, motor vehicles, combines and mineral fertilizers. They themselves direct assignments, material and technical resources and also allocations of funds from the budget among kolkhozes, sovkhoses and other enterprises and organizations. They also determine volumes of procurements of agricultural goods within private farm plots held by the population.

Plans for procurements of vegetables by sovkhoses are the immediate responsibility of the USSR Ministry of the Fruit and Vegetable Industry, and are carried out by this ministry, whereas plans for state procurements of products of the animal-raising industry and funds for combination feeds for all farms, including sovkhoses belonging to the USSR Ministry of the Fruit and Vegetable Industry, are administered by RAPO.

It is very important to mention that capital investments as a whole are earmarked for ESSR Agroprom for the "agriculture" branch overall and that there are uniform limits imposed on services performed for the kolkhozes, sovkhoses and enterprises by production and technical branches. This has made it possible to resolve issues regarding the expediency and priority of using these services on the basis of the interests of the entire agroindustrial complex rather than individual departments as previously. Likewise, questions of development within interbranch cooperative efforts are being decided more uniformly and more purposefully.

The formation of rayon-level agroindustrial associations has made it possible to improve services provided to kolkhozes and sovkhoses by engineering, land-reclamation, agrotechnical and transportation organizations. The State Equipment Association, the State Fertilizer Association and reclamation organizations that existed in the rayons in the past are now united into single enterprises under the auspices of rayon associations under the State Equipment Association. All functions connected with production and technical servicing of farms are the responsibility of these large, unified enterprises.

The ESSR Agroindustrial Association Council has charge of all questions concerning repair and servicing of the truck and tractor fleet, electrotechnical equipment, equipment used in animal-raising, agrochemical and land-reclamation projects, centralized transport and material and technical supply--the kolkhozes and sovkhoses now deal with a single organization, the rayon service enterprise, subordinate to the RAPO Council.

Who Is Responsible for What

The creation of a joint enterprise for production-technology, agrochemical and land-reclamation services to the kolkhozes and sovkhoses within the structure of rayon-level agroindustrial associations has made it possible to concentrate capital investments in building a unified technical base instead of scattering them among departments. More attention is being given to strengthening the production of the kolkhozes and sovkhoses.

In the republic a significant amount of work has been carried on to eliminate parallelism and duplication in the work of the engineering and technical services of the kolkhozes, sovkhoses and the efforts of the RAPO and the rayon service enterprise and their functions have been delimited. The RAPO Engineering Service now has the responsibility for the following: developing basic directions of the total mechanization and electrification of agricultural enterprises, introducing new technology and advanced methods, monitoring the upkeep and condition of equipment, organizing training and advanced training of machine operators, as well as distribution of material resources.

The rayon service enterprise is responsible for keeping machinery in working order and maintaining equipment and motor vehicles for the kolkhozes, sovkhoses and enterprise subdivisions, as well as for providing an uninterrupted supply of spare parts and repair materials to the farms, organizing technical service and equipment repair; they are also in charge of installing new equipment at the farms and carrying out agrochemical and land-reclamation projects and other efforts in accordance with plans confirmed by the RAPO Council.

ESSR Agroprom and the rayon agroindustrial associations are creating centralized funds for economic incentives, social and cultural measures and also housing construction and industrial development. As of the beginning of 1985 the total amount of these funds is almost eight million rubles.

The experiment in administering the agroindustrial complex of Estonia is continuing. A great deal of work still lies ahead in refining the economic mechanism for managing under new conditions. However, it may already be said that increased efficiency in agricultural production has resulted from efforts so far.

In the republic as a whole the gross agricultural product has increased, in terms of comparable fixed prices by 11.2 percent compared with the two past years. Grain yield has increased by 15.6 percent, that of potatoes by 32.8 percent and that of milk (figured per cow) by 10.3 percent. The average daily weight gains of livestock have increased significantly.

In the last two years there has not been a single farm operating at a loss in the ESSR.

Crops are now being sown on Estonia's farms. Agricultural workers on kolkhozes and sovkhoses and the organizations that render services to them are devoting all their efforts to laying a firm foundation for a good harvest in the final year of the five-year plan by carrying out their work in the shortest time possible.

Obligations for the present year stipulate that from each hectare 31-32 quintals of grain be harvested, 185 quintals of potatoes and 210 quintals of vegetables. It is planned that the procurement plan be overfulfilled for the basic forms of farm products, to sell 286,000 tons of livestock and poultry, 1.22 million tons of milk and 372 million eggs. In state purchases of agricultural products, the task has been set to meet the levels outlined by the Food Program.

AGRICULTURAL MACHINERY AND EQUIPMENT

UDC 636.084.7.004.12

IMPORTANCE OF ANIMAL RAISING EQUIPMENT QUALITY STRESSED

Moscow TEKHNICA V SEL'SKOM KHOZYAYSTVE in Russian No 5, May 85 pp 27-28

[Article by V. S. Mkrtumyan, doctor of technical sciences, SibIME [Siberian Scientific Research Institute for the Mechanization and Electrification of Agriculture: "Equipment Quality and Production Efficiency"]

[Text] The technical reequipment of farms and complexes is a very important condition for improving labor productivity and production efficiency in animal raising. Thus, at the Kudryashevskiy Pig Feeding Complex in Novosibirsk Oblast, the energy available per worker is 24.3 kW and labor outlays per quintal of output are 3.7 hours, while for ordinary pig farms the figures are 14.6 kW and 19.8 hours respectively.

However, the growth in energy availability per worker is not always accompanied by improvements in production efficiency. At dairy farms in Novosibirsk Oblast between 1970 and 1980 it increased from 2.2 to 7.5 kW and labor outlays for the production of 1 quintal of milk declined from 10 to 6.9 hours. Beginning in 1978, while energy available grew, work time remained at practically the same level, about 7 hours. This is because increases in the capital-labor ratio above a certain norm not accompanied by improvements in equipment quality, especially reliability, make it hard to manage equipment.

There are also cases where labor productivity increases with the growth in energy available per worker, but there are no improvements in production efficiency. This takes place when the growth in labor productivity is balanced out by outlays for equipment production.

A study of materials shows that the growing energy available to labor at animal raising farms (complexes) can guarantee production efficiency if increases in the number of machines are accompanied by improvements in quality and reliability, fundamentally new machines are built and there are improvements in the technical support and repair system.

It has been established that the actual reliability levels of much machinery and equipment is considerably lower than required.

Because of insufficiently reliable equipment at dairy farms and complexes, output losses sometimes reach 40 percent. Equipment breakdowns and idle time at a 10,000 cattle feedlot causes losses totalling 2,000 rubles, while at a

farm for 6,000 pigs the figure is 7,000 rubles. When a feed chopper-mixer at a feed shops in a dairy complex goes out of order a one hour delay in feeding animals leads to a 9 - 13 percent loss of milk. Breaks (fissures) in the diaphragm of a pulsator and collector, the inspection glass or milking hose cause 11 - 16 percent losses. Moreover, outlays for technical servicing and repairs are 1.2 - 2 fold higher than repairs.

Consequently, improvements equipment reliability are one of the factors for assuring production efficiency in animal raising. They reduce production and operating costs, requirements for equipment and spare parts and improve labor productivity.

It is rational to increase equipment reliability to optimal levels, that is to the level at which outlays for development, production and operation are minimal.

At SibIME they have developed a mathematical model making it possible to determine the optimal values of norm indicators for machinery and equipment reliability at dairy farms and complexes and to compile scientifically based requirements. Such requirements are needed for all animal raising equipment.

Scientific and technical achievements now make possible effective methods for improving equipment reliability through increases in the longevity of limiting components. These include plasma, laser, galvanic, explosive and other methods for strengthening machine parts. For example, the use of plasma fusing of powder materials (ferrobor, sormite) strengthening of the knives on chopper-mixers used at feed shops approximately doubles their service lives.

These methods are known. What are now needed are optimal regimes for treating parts, rational technology for strengthening parts of specific machines, depending upon the conditions and character of their work. They should be included in the technical documentation for the manufacture of new machines and used at repair enterprises.

Assume that industry started to deliver reliable machines. Can one then say that the problem is solved? No.

The problem of improving the animal raising equipment reliability can be completely solved if the reliability built into the equipment is supported by operating conditions and suitable organization for servicing, repair and storage.

However, equipment servicing at kolkhozes and sovkhoses often meets only low standards, while daily servicing is irregular and of poor quality. Repairers arbitrarily curtail the recommended amounts of periodic servicing, although they receive the complete normed payments. As a result, equipment breaks down, and maintenance costs rise. During the operation of this equipment there should be stricter control over service and repair quality.

Experience in Novosibirsk Oblast is evidence that with RAPOs [rayon agricultural production associations] the engineering-technical services in the countryside improve markedly. New organizational forms are introduced and

interaction between all units improved. Monthly evaluations of STOZh [Station for the technical servicing and repair of equipment for animal farms and complexes] and the payment of workers depending upon the results from production activities at farms have unified Sel'khoztekhnika engineering-technical services and farms and directed their activities towards assuring machinery reliability and producing high quality products.

There is also a requirement to create qualitatively new equipment, automatic lines, new technology and rationalize organizational forms.

Work along these lines is already under way. For example, at SibIME they have developed a new stimulaor milking apparatus which reduces labor outlays for milking cows by 2.5 fold on an average, reduces milk losses by 4.3 percent, assures complete stripping without manual massage and eliminates mastitis. This apparatus is undergoing extensive on farm testing.

As is known, in animal husbandry the finished product is obtained through equipment assisted human interaction with feed animals. A complex human -- machine -- animal system is formed. Its functional efficiency depends upon the reliability of all its technical and biological links. Therefore, equipment at animal farms should not be considered in isolation from service personnel and animals. That is, a comprehensive approach is required for problems improving the efficiency of animal product output.

Jointly with other VASKhNIL [All-Union Academy of Agricultural Sciences imeni V. I. Lenin] institutes, SibIME has developed a system for the comprehensive servicing of dairy equipment, the veterinary servicing of animals and professional training and retraining of personnel. If they are insufficiently qualified they cannot completely utilize the potentials of comprehensive mechanization. Various forms of cadre training are required. In Novosibirsk Oblast, for example, television is used to improve the skills of animal raisers: 6 or 7 qualified specialists can teach up to 25,000 people.

An experimental review of the system for the comprehensive servicing of animal raising equipment at the Barrikady Kolkhoz and the Zavodskoy Sovkhoz in Novosibirsk Oblast showed that the practical introduction of this measure, will, together with assuring continuous operation of equipment, reduce the mastitis incidence rate 4 to 5 fold, increase grade A milk production to 95 percent and more and have an economic effect of up to 60 rubles per ton of output produced.

Considerable reserves are also hidden in equipment standardization. A solution to this problem will reduce the number of equipment models in animal raising. For example, research shows that to mechanize milking and feed distribution it is sufficient to have 3 and 2 types of machinery instead of the multitude produced.

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CSO: 1824/380

AGRICULTURAL MACHINERY AND EQUIPMENT

TECHNOLOGICAL DOCUMENTATION PROBLEMS DISCUSSED

Omsk ZEMLYA SIBIRSKAYA, DAL'NEVOSTOCHNAYA in Russian No 3, Mar 85, pp 4-6

[Article by G. G. Sablin, scientific secretary, presidium, Siberian Department, Academy of Sciences imeni V. I. Lenin, candidate of economic sciences; under the rubric "Scientific-technical Progress for Production": "Increase the Attention Paid to Technology"; passages in caps printed in boldface]

[Text] Technology is becoming one of the decisive factors for the development of production at the present stage. It is acquiring vast importance in the agro-industrial complex and occupies a central place in scientific and technical progress in any sector. The conversion of agriculture to an industrial basis is making technology more complicated. Consequently, its management is becoming more important. The intensive development path for agriculture urgently poses questions in the efficient use of resources. This can be successfully implemented primarily through technological solutions based on the active introduction of scientific achievements. In practice, however, there is a large gap between the development of science and of production. The elimination of this gap and the effective use of natural and production resources requires a sharp improvement in the level of technological decisions. In this regard I would like to examine a number of such questions which must be solved now.

FIRST. In recent years there has been a radical restructuring of the material-technical and socio-economic base of agricultural production. Large amounts of material-technical resources have been allocated, agricultural enterprises have been equipped with highly productive machinery and there has been widespread mechanization, electrification, chemicalization and reclamation. There have been considerable improvements in the general educational, technical and cultural levels of agricultural workers. All these factors have created the conditions necessary for the dynamic and effective growth of agricultural production.

However, there are still only slow improvements in agricultural crop yields, and in animal and labor productivity. For example, because animals are very unsatisfactorily utilized, the productivity of animal raising could be increased 1.5 fold using the same resources. In particular, this is indicated by the chronically low milk yields per cow. This is even though over the past 10 - 15 years the capital and energy availability in the sector have increased by 2 - 3 fold, feed production by 1.5 fold, there have been sharp improvements

in the material-technical base, considerably upgrading of animal breeds, increases in workers' material incentives and the number of specialists has doubled.

Technological preparations for production remain a weak link. Practical work still lacks the precise regulation of technological processes. This leads to all sorts of oversights, gaps and low work quality, low yields from crops and animals and prevents effective control over production. The absence of the essential technological documentation is a big problem in agriculture. For example, many important agronomic measures are not used in crop production. As a rule, the work procedure is determined orally, and there are not always agreements upon conditions and factors. The insufficiently worked out agronomic techniques for raising potatoes and poor supervision over their observation lead to large losses.

Because of the failure to observe production techniques in animal raising there are large shortfalls in output. Numerous violations are noted in the techniques for the artificial insemination of cattle, in raising calves and replacement animals and in machine milking. According to data from SibNIPTIZh [Siberian Scientific Research and Design Technological Institute for Animal Raising], simply due to failure to observe milking methods milk losses amount to 5 - 10 percent. Failure to observe techniques for calf raising leads to animal losses and output shortfalls. Existing process charts are used mainly for techno-economic planning. There is still no system for the development and production utilization of technological documentation. The unsystematic nature of this work causes great harm and prevents the complete use of soil-climatic and production resources.

Practice shows that the developments recommended by scientific institutions cannot be production documentation, as they require specific linkages to farming conditions. The defining factors (natural, climatic, production and other) are not the same. In each individual case one can distinguish an entire series of specific features. For example, at the beginning of the 9th Five-Year Plan, using the methodology for Ordynskiy Rayon, Novosibirsk Oblast, techniques were developed for raising feed crops and producing the main types of feeds in the rayon. Their reduction resulted in high quality haylage, sharply increased yields of corn green chop and in large amounts of sweetclover seed. In cooperation with SibNIIRS [Possibly: Siberian NII for Seed Crop Growing] technological documentation for raising clover seed was developed.

Increased attention towards solutions to production technique problems helped the rayon increase feed production 1.5 fold and improve quality. A strengthened feed base and the active introduction of industrial technology into animal husbandry helped improve animal productivity. During the 8th Five-Year Plan, milk yield per cow in the rayon was 2,325 kg, in the 9th it was 2,693 kg, and in the 10th Five-Year Plan it was 3,000 kg; the respective figures for the average delivery weight for cattle were 316, 390 and 450 kg.

With highly equipped production operations, the development of technological documentation for each sector acquires special importance. It should lay out in detail the peculiarities of equipment use and work conditions, indicate

application methods and precise doses of fertilizer, the sequence of operations, performance times and other parameters. However, due to traditions and circumstances agricultural specialists do not always have the habits needed to solve these questions.

An analysis of agricultural enterprise activities shows that modern production requires the appropriately developed technology (just like industry). The overloading of sector specialists with organizational functions of general management, supply, reports and other questions prevents them from fully exercising technological leadership. Studies by a number of scientists show that chief specialists devote only about 15 percent of their work time to technological functions.

IN THE INTERESTS OF PRODUCTION IT IS NECESSARY TO MORE PRECISELY DELINEATE TECHNOLOGICAL LEADERSHIP FUNCTIONS IN THE ACTIVITIES OF KOLKHOZ AND SOVKHOZ SPECIALISTS. IT IS ESSENTIAL TO MAKE EXTENSIVE IMPROVEMENTS IN TECHNOLOGICAL DESIGNING AND IN THE DEVELOPMENT OF DIVERSE FORMS OF TECHNOLOGICAL DOCUMENTATION FOR ALL DIRECTIONS IN THE EXPANSION OF AGRICULTURAL PRODUCTION. Such documentation should be precise, brief (but sufficiently complete), reflect production processes, be convenient and efficient for the users, link and brigade leaders and specialists and have an active influence upon the introduction of progressive technology and improvements in technological discipline in all production sections.

SECOND. The conversion of agriculture to an industrial basis has understandably required improvements in the standards of production technology management. The experience of technological management in industrial production should be taken into account. The basic tasks in technological leadership should include the following: the introduction and improvement of processes based upon the latest scientific achievements and new equipment, high standards of technological discipline and the attainment of the planned crop yields and animal productivity.

The technological functions of production management include the development and introduction of standard technological processes in each sector, control over the completion of all processes, the analysis of existing processes and their constant improvement to raise labor productivity and reduce production costs, the development of diverse forms of technological documentation, the discovery of reserves, the elimination of "bottlenecks", growth in capacity, and the study of reasons for production breakdowns and measures to eliminate them.

AS CAN BE SEEN, THE TECHNOLOGICAL MANAGEMENT OF PRODUCTION HAS ITS OWN QUITE SPECIFIC TASKS AND FUNCTIONS. IN ORDER TO STRENGTHEN SPECIALISTS' ROLE IN PRODUCTION TECHNOLOGY MANAGEMENT IT IS RECOMMENDED THAT THE JOB INSTRUCTIONS FOR SPECIALISTS IN EACH AGRICULTURAL SECTOR MORE PRECISELY DEFINE THE TECHNOLOGICAL FUNCTIONS OF THEIR ACTIVITIES.

THIRD. In practical work special attention should be given to the development of technological documentation and improvements in its role in production efficiency. Technological documentation is taken to mean documents which individually or together with others define a technological process or

operation. A technological process is described in forms especially developed for this purpose, which make up a unified system of technological documentation (ESTD). Sectoral standards are used to make their development specific for each sector. As such standards have not been developed and approved for agriculture, the basis should be the individual aspects of ESTD, adapted to specific production condition.

It should be noted that the development of technological systems in zonal systems of agriculture was a new stage in strengthening technological support to production. Their development was valuable above all because they used all available scientific achievements and the experiences of progressive farms. Also, their description of methods took zonal peculiarities into account. Specialists now face the tasks of introducing scientists recommendations into production as completely as possible.

The need for technological support is especially great for the contract form of labor organization. Technology is the first link in the production of final output. This puts exceptional importance upon technological support to collectives working on contract. The presence of technological documentation permits them to skillfully and scientifically organize the production process.

GOST [State Standard] 3.1108-74 "The Completeness of Documents Depending Upon the Type and Character of Production", should play a major role in the designing of technological processes. The essence of designing entails the demand to define, for each agricultural enterprise, the the set of technological documentation for all types of work in the main production operation. Such work has still not been done in agriculture. Its introduction is needed. Technological design in each agricultural enterprise requires the preparation of methodological instructions for elaborating technological documentation. In addition to technological charts, other forms of documentation could also be used, depending upon the complexity of the process.

Recently there have appeared many publications on the development of technological charts in crop production. However, these charts immediate production role remains insignificant. A number of reasons and circumstances have given rise to this situation. First of all, there has not been wide dissemination of the practice of developing technological processes through their complete description by the total set of technological documentation. This reduces the significance of this documentation. Secondly, the work methods of agricultural specialists have not given the necessary attention to problems of technological support to production. Technological charts are used even less in animal raising. Other forms of technological documentation at kolkhozes and sovkhoses are not being developed.

THE VITAL NEED TO WORK OUT TECHNOLOGICAL PROCESSES IS TREMENDOUS. THIS IS ESPECIALLY IMPORTANT FOR YOUNG SPECIALISTS, WHO UPON ARRIVAL AT A FARM CANNOT MASTER THE ACTUAL MODEL OF TECHNOLOGICAL PROCESSES IN EXISTENCE FOR A LONG TIME. Many difficulties arise during the frequent replacement of specialists. The insufficient technological substantiation of production management organization is very detrimental to them.

The industrialization of animal husbandry requires the precise organization of the technological management of production. In what direction and on what basis should technological processes be developed in, for example, milk production. As a beginning, it is suggested that specialists thoroughly study all technological processes in its production. They should list them for their farm, and work out the appropriate types of technological documentation. Actually functioning equipment at progressive farms with high production standards and labor productivity and the highest output at lowest outlays should be the model for progressive technology in milk production. In developing technology it is also necessary to use an approved sectorial standard technological process for zones. After designing these models for farms, it is essential to assure their economic efficiency, give precise descriptions in forms and organize their implementation.

In determining the list of main technological processes for each farm, consideration should be given to the periods for keeping livestock (stall and summer). Their development should be based upon the amount of feed at farms and the specific levels of milk yields. The higher the yield the more thorough and careful should be the development of production technology. In addition to the technological charts for the main technological processes in milk production, there should be a more detailed description of individual complex production processes. Prolonged search for a solution to these tasks directly at production sites has made it possible to find convenient forms for depicting dairy cattle operations. SibNIPTIZh scientists conclude that it is possible to work out such forms for complex processes in animal raising.

The development of technological processes and their description in a set of technological documentation makes it possible to raise production organization to a new stage. The basis for working out a set of technological documentation for crop production should be the "Typical Technology for Raising Agricultural Crops by Zone", while in animal raising it should be the "Typical Technology or Typical Technological Process for the Production of Meat, Milk, etc." Depending upon conditions at farms, only the essential forms of documentation are determined. The types of technological documentation can be improved and new, additional forms introduced.

As animal raising sectors lack experience in the development of technological documentation, it is proposed that each kolkhoz and sovkhoz have a set of documents on the following: the main processes in milk production and machine milking, the artificial insemination and feeding of cattle, calf and replacement animal raising, the keeping of animals, the technology for control-breeding and dry stall yards and herd reproduction requirements. The development of technological documentation (verified by production experiment) will make possible regulations for processes, steady improvements in production technology and strict control over production.

THUS, TO STRENGTHEN TECHNOLOGICAL MANAGEMENT OVER AGRICULTURAL PRODUCTION SECTORS IT IS PROPOSED TO INTRODUCE THE DEVELOPMENT AND APPROVAL OF TYPICAL TECHNOLOGICAL PROCESSES FOR THE MAIN PRODUCTION OPERATIONS IN CROP PRODUCTION AND ANIMAL RAISING AND BASED ON THEM, ASSURE THAT SPECIALISTS WORKING UNDER SPECIFIC CONDITIONS AT KOLKHOZES AND SOVKHOZES WILL MASTER EFFECTIVE VARIANTS OF TECHNOLOGY. Scientific research institutes must work out sectorial

standards for systems of technological documentation. Kolkhozes and sovkhoses must also work out and approve the necessary set of technological documentation for each process and plans for technological preparations for production. Depending upon the position occupied, at all management levels there should be more precise technological functions in the activities of all agricultural specialists. There should also be improvements in educational programs at agricultural institutes and tekhnikums in order to improve specialists' technological training.

Solutions to problems in the technological management of agriculture will permit a more successful completion of national economic tasks, the precise implementation of technical and technological policies in agricultural development, a minimization of the gap between scientific achievements and practice. This will accelerate scientific-technical progress, assure higher rates of labor productivity growth in agricultural sectors, improve crop yields and animal productivity and raise the levels of technological discipline, work efficiency and quality.

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CSO: 1824/380

TILLING AND CROPPING TECHNOLOGY

RSFSR OFFICIAL ON APPLICATION OF INTENSIVE CULTIVATION TECHNOLOGY

Saratov STEPNYE PROSTORY in Russian No 3, Mar 85 pp 2-5

[Article by RSFSR Deputy Minister of Agriculture B.P. Martynov: "Intensive Wheat Cultivation Technology--Into Production"]

[Text] The Russian Federation is an important grain growing region of our nation. It has around 71 million hectares of grain fields. The republic's kolkhozes and sovkhoses account for more than half of the Union's total gross grain harvest and the same portion of its grain procurement.

The republic's crop cultivation has risen to a new and higher level in recent years. The amount of capital for agricultural production and the amount of power available per worker have increased, capital investments have been re-oriented, and greater amounts are being allocated for crop production.

The 26th CPSU Congress and the May 1982 and subsequent Plenums of the CPSU Central Committee assigned the republic's farm workers the task of placing crop cultivation onto an industrial basis and giving stability to the branch as rapidly as possible.

Taking advantage of the state's comprehensive assistance to the agroindustrial complex and operating closely with the scientists, agricultural agencies, kolkhozes and sovkhoses are working purposefully to adopt scientifically based crop cultivation methods in production. The crop structure has essentially been brought into conformity with the recommendations of scientific institutions as applicable to the specific soil and climatic conditions of each kolkhoz and sovkhos. Areas of bare fallow and areas planted to perennial grasses and pulse crops have been enlarged. Areas of land worked with soil protection techniques have also increased. Liming is on the increase. Total mechanization is being consistently carried out. Steps are being taken toward the accelerated reproduction of intensive new varieties of grain and other crops and their introduction into production, and seed production is improving. The necessary prerequisites have been created in all the zones of the Russian Federation for placing grain production onto a fundamentally new basis, and it has become possible to provide a higher level of intensification in grain farming.

The main thing is to use all available resources for a good return and to concentrate them in those areas in which the greatest effect can be achieved, and

this is what Comrade K.U. Chernenko, general secretary of the CPSU Central Committee and chairman of the Presidium of the USSR Supreme Soviet, directed us to do at the October 1984 Plenum of the CPSU Central Committee. The Politburo of the CPSU Central Committee recently approved steps to introduce intensive technology for raising winter crops and spring wheat, which should provide the nation with additional millions of tons of grain. This is the first time such a task has been set.

Intensive technology for raising any crop, particularly wheat, requires an overall high level of cultivation and complete application of all the elements of scientifically based cropping systems: bare fallow, organic and mineral fertilizers, the supplying of balanced nutrition, plant protection agents and equipment and adherence to the technology.

In the intensive technology there are no main or secondary factors for increasing the yield or improving the quality of the grain: they are all equally important, and deviation from or failure to implement one of them will reduce output and lower the quality. It would be appropriate at this point to recall the precept of the great Soviet scientist K.A. Timiryazev: "Nowhere else, perhaps, in no other field of activity, is such multifaceted knowledge required, nowhere else can over-involvement from a one-sided standpoint lead to such a major failure as in crop farming."

This year, kolkhozes and sovkhoses of Volgograd, Kuybyshev, Penza, Saratov and Ulyanovsk oblasts and the Tatar ASSR have been assigned the task of achieving spring wheat yields of 20-22 quintals per hectare on bare fallow, yields of 15-18 quintals per hectare from the second crop following the fallow, and obtaining commercial grain meeting the highest GOST (9354-67 and 9353-67) requirements for strong and durum wheat varieties. The planned level has actually been achieved by many kolkhozes and sovkhoses. In the Volga region, for example, 2.7 million hectares was planted to grain crops in 1983, and the yield exceeded 20 quintals per hectare. With respect to the outstanding farms and state strain testing sections, a level of 25-30 quintals has long been the norm for them.

The additional application of intensification factors in wheat production will only make it easier to increase the group of farms and the area on which it is realistically possible to increase yields by 5-6 quintals per hectare and make the wheat fields more resistant to adverse environmental conditions.

Another goal--raising strong and durum varieties of wheat--is also perfectly attainable. The geographic distribution of crops cultivated with the intensive technology basically coincides with the areas in which this grain has traditionally been raised.

The first experiments in adopting intensive technology for cultivating winter wheat, performed in 1984, showed that considerably higher yields can be obtained and the grain quality substantially improved even with adverse weather conditions. For example, average winter wheat yields were 54.3 quintals per hectare on farms in Krasnodar Kray and 53.5 in Stavropol Kray, 46.6 in Moscow Oblast and 22.7 in Tambov Oblast, which was 13.7 quintals per hectare more than from crops cultivated in the conventional way. There are many such examples.

Certain farms have achieved even greater figures. The Kolkhoz imeni Gor'kiy in Tbilisskiy Rayon, Krasnodar Kray, has obtained 66.2 quintals per hectare, and the Experimental Model Farm imeni Kalinin in that kray has obtained 61.7 quintals of grain per hectare with a protein content of 32 percent. The Rossiya Kolkhoz in Novoaleksandrovskiy Rayon, Stavopol Kra', has harvested 55 quintals per hectare, which is almost 20 quintals more than from crops with conventional cultivation.

The protein content exceeded 30 percent. Production costs were 3.03 rubles for grain raised on that farm with the intensive technology, and 3.37 rubles for crops cultivated with the conventional technology. The Komsomolets Sovkhoz in Tambov Oblast has harvested 43.8 quintals of winter wheat per hectare, while the yield was only 24 quintals per hectare for the farm as a whole.

The initial positive experience in using intensive technology for raising winter crops must be applied to spring wheat.

The main spring wheat areas (more than 80 percent) are in regions with inadequate moisture--in the Volga Region, in the Southern Urals and the steppe regions of Western and Eastern Siberia. Spring wheat yields averaged 10.8 quintals per hectare there during the period 1981-1983, and were even lower in Saratov and Volgograd oblasts--7.6 and 6.3 quintals per hectare respectively.

A study of the situation has shown that one of the main causes of the low productivity level for spring wheat is the slow mastery of scientifically based cropping systems developed on the kolkhozes and sovkhoses--particularly crop rotation, the main element.

It would seem that now, since the matter of stabilizing the grain cultivation area and further enlarging the area of bare fallow and perennial grasses has been dealt with, crop rotations should be rapidly put into practice. And this is possible, since 4- and 5-field grain-and-fallow crop rotations with a short rotation cycle have generally been adopted in the areas of commercial spring wheat cultivation. In fact, however, the situation remains unsatisfactory (see Table 1).

Table 1. Application of Crop Rotations in the Volga Region as of 1 November 1983, Percentage of Tilled Area

(1) Наименование областей и республик	(2) Освоено севооборо- тов	(3) Возделывание сельскохозяйст- венных культур в неосвоенных севооборотах
Волгоградская (4)	89	9
Пензенская (5)	76	20
Саратовская (6)	93	5
Татарская (7)	74	23
Ульяновская (8)	84	12

Key:

- | | |
|---|--------------|
| 1. Oblast or republic | 4. Volgograd |
| 2. Crop rotation systems applied | 5. Penza |
| 3. Cultivation of farm crops without crop rotations | 6. Saratov |
| | 7. Tatar |
| | 8. Ulyanovsk |

Priority is being assigned to the adoption of crop rotation systems also because they are closely interlinked with the soil cultivation, fertilization and plant protection systems; they are an indicator of order on the land and rule out the arbitrary distribution of crops. They make it possible for the agronomists to work purposefully to increase fertility for many years in advance. The task is one of distributing the spring wheat grown this year with intensive technology strictly according to the crop rotation patterns adopted on each kolkhoz and sovkhos. Since the areas cultivated with the new technology will be increasing, it is essential for all of the crop rotation systems to be put into practice universally within the shortest possible period of time--1-2 years.

The planting of spring wheat on bare fallow is an important factor for the successful adoption of intensive technology for cultivating this crop. With good applications of fertilizer, they retain their fertility the following year. Nor can we forget the fact that bare fallow is the best predecessor only when the entire system of agrotechnical steps is carried out completely and in accordance with the best schedule in the fallowing process. Only then will spring wheat provide an important addition to the harvest (see Table 2).

Table 2. Data on Effectiveness of Bare Fallow in Kuybyshev and Penza Oblasts in 1983

(1) Наименование областей	(2) Урожайность яровой пшеницы, ц/га	
	(3) по чистым парам	(4) по непаровым предшественникам
Куйбышевская (5)	14,8	13,3
Пензенская (6)	20,4	12,5

Key:

- | | |
|---|---------------------------------|
| 1. Oblast | 4. With non-fallow predecessors |
| 2. Spring wheat yield, quintals per hectare | 5. Kuybyshev |
| 3. On bare fallow | 6. Penza |

We can see that spring wheat yields on fallow exceed those with non-fallow predecessors by almost 2 and 8 quintals per hectare. The addition is undeniable, but it is still too little--two or more quintals less than the averages for this region. The cause is the unsatisfactory work performed with the fallow land. It is frequently limited to merely plowing the soil, and even that not according to schedule. Too little organic fertilizer is applied. Only 6 tons of manure has been applied per hectare of fallow land for this year's crop on farms in Volgograd Oblast, for example, and only 8 and 10 tons respectively in Saratov and Kuybyshev oblasts.

Specifically, the task is one of planting the spring wheat crops which will be cultivated with the intensive technology on the best fallow fields--that is,

those which have been plowed in good time, from which the weeds have been thoroughly removed and which have received large applications of organic fertilizer.

A fallow field should provide a minimum of 1 ton per hectare of additional grain, which means that at least 70 tons of organic fertilizer must be applied to it, it must be kept free of weeds all summer and turned over according to the optimal schedule. A number of farms do not have enough manure or peat stocks. This means that other materials must be used.

The solution to this problem was offered by Academician D.N. Pryanishnik, who demonstrated the expediency of using green manure on fallow land. The planting of legumes as green manure increases the supply of nitrogen assimilated by rhizobia in the soil. Nutrients extracted by the roots of the green manure crops from the subsoil into which they have been leached from higher layers, accumulate in the topsoil. Tests have shown that green manure is the equivalent of manure in a ratio of 1:3.

Certain farms in the Tatar and Bashkir ASSR's have been using green manure on large areas and obtaining good results for a number of years now. The Kolkhoz imeni Vakhitov in Menzelinskiy Rayon, Tatar ASSR, for example, plants charlock and rape as green manure crops. In 1983, 120 quintals of green mass was plowed under and 30 quintals of rye per hectare was harvested on an area of 75 hectares. The area on which green manure crops are planted has been increased to 150 hectares on that farm this year. Each farm itself must determine what specific crop should be selected as the green manure crop.

The next factor involved in working with fallow land is to cultivate it and keep it free of weeds. Fallow fields are frequently not remembered until time to plant, when they are grown up in weeds and must be replowed, which loses accumulated moisture. There is no need to discuss methods of combatting weeds on fallow land. None of them is effective unless they are performed well and at the right time. Herbicides are still being used on insignificant areas in the dry steppe regions, although they make it possible to reduce the number of cultivation operations and increase the resistance of the fallow fields to erosion.

In areas with inadequate moisture, windbreaks may be used as an additional means--and in some cases, the only means--of accumulating moisture and combatting wind erosion. Soil moisture prior to the planting of spring wheat has been checked in tests run by the All-Union Scientific Research Institute of Grain Farming, which showed that windbreaks of mustard provide an additional 50-60 millimeters of productive moisture. In the tests, there was an average difference of 43 millimeters in the amount of moisture accumulated with windbreaks and that of the bare fallow. The higher moisture content of the soil on fallow land with windbreaks provides the spring wheat with a better moisture supply during the vegetation period and reduces the harmful effects of early drought, as a result of which the yield from the crop increases by 2.5-4.5 quintals per hectare.

The crop rotations include second plantings of spring wheat in certain areas of the Volga Region. The planting of a second crop after fallow, with thorough adherence to the technology, produces fair yields. It is important to consider the immediate predecessor. Winter rye is a good one. It is harvested early. This makes it possible to break up the fall-plowed soil, apply the needed amount of fertilizer and turn over the soil for the spring planting in good time.

Inter-row, pulse or other crops may be used as the predecessor for spring wheat, depending upon the specific situation.

What can be done to increase the value of non-fallow fields for planting spring wheat this year? Accumulate and preserve the maximum amount of moisture. Apply fertilizer. Give special attention to the presowing cultivation--leveling and creating the conditions for the use of surface-operated equipment used for applying top dressing and combatting pests and diseases.

The implementation of measures for protecting the soil against wind erosion on the scales specified by the General System of Erosion Protection Measures and crop cultivation systems is still the determining factor for accumulating the maximum amount of moisture in the soil and making efficient use of it (see Table 3).

Table 3. The Results of Work Performed to Protect Soil Against Wind Erosion, Averaged for 1981-1983 (thousands of hectares)

(1) Наименование областей и республик	(2) Безотвальная обработка почвы		(3) Посев специ- альными проти- воэрозийными сеялками	
	(4) должно быть в 1985 г.	(5) прове- дено к 1985 г.	(4) должно быть в 1985 г.	(5) прове- дено к 1985 г.
Пензенская (6)	70	-12	60	-53
Саратовская (7)	2600	-674	2250	-86
Татарская (8)	1500	-408	800	-745
Ульяновская (9)	180	-5	90	-56

Key:

- | | |
|---|---|
| 1. Oblast or republic | 5. Already carried out, ⁺ of 1985 figure |
| 2. Soil worked without turning it over | 6. Penza |
| 3. Planted with special erosion-preventing planters | 7. Saratov |
| 4. Figures set for 1985 | 8. Tatar |
| | 9. Ulyanovsk |

Early, well fertilized fall-plowing has always been a guarantee of stable yields for all farm crops. Unfortunately, we are still breaking up very little of it. Crops are frequently planted with only spring plowing.

When adopting intensive technology for cultivating spring wheat, special attention must be given to the basic working of the soil, however that might be performed, whether plowed or harrowed.

Working the soil prior to planting is an important agricultural technique. It is limited to harrowing on some farms. The fields are not leveled, and this makes it difficult to plant the seed at the required depth. The sprouting is not even. Presowing cultivation is essential on weedy fields, and this is possible when a second crop of wheat is planted on land which has been fallow. The kolkhozes and sovkhoses now have a sufficient quantity of cultivators to perform this operation rapidly and well.

Optimal planting schedules have been developed for each soil and climatic zone of the Volga region in accordance with the condition of the soil, the moisture supply and the variety being planted. Unfortunately, many kolkhozes and sovkhoses are not keeping to these schedules for various organizational reasons, and this ultimately results in a short harvest and deterioration of the grain quality. We cannot accept this situation any longer.

There are great differences of opinion with respect to seeding rates. Certain farms and rayons have begun planting spring wheat at a seeding rate of 250 kilograms or more (more than 6 million seeds per hectare). This can be viewed as an attempt by negligent agronomists to kill weeds--that is, to cover up for their own inadequacies in the work--with high seeding rates. The seeding rate should be determined only by biological factors, and not by arbitrary decisions.

With respect to the selection of the varieties, they should be intensive varieties and be zoned. The selection should be made from the standpoint of a comprehensive evaluation, bearing in mind the end goal of obtaining not just a high yield, but grain of the very highest quality.

Along with selection of the proper varieties, the yield is also significantly affected by the quality of the seed. It is not enough just to determine the germination rate, the purity, the moisture content and the degree of contamination of the seed for performing the seeding at the level of the latest achievements. A new indicator, growing vigor, has now been established. All of the spring wheat seed which will be used this year for cultivating with the intensive technology should therefore be tested for growth vigor, with the best batches selected for planting.

The solid method of applying fertilizer is presently the most widespread. It is scattered (dispersed) on the surface of a field prior to plowing or presowing cultivation. Industry provides agriculture with a large quantity of diverse equipment for spreading fertilizer, including the RTT-4.2 fertilizer distributors, the mounted NRU-0.5 spreaders and the 1-RMG-4 and RUM-8 broadcast-strip fertilizer spreaders with enlarged containers. Horizontal, rotating discs with centrifugal action are the working elements on them. These machines do not place the fertilizer directly into the soil. Of relatively simple design, they spread the fertilizer over the strip covered very unevenly (with a variation of up to 25 percent). The main shortcoming with the broadcasting of fertilizer is the fact that a large quantity is removed from the surface of

the field by the wind or washed away by rain or melting snow. According to data compiled by scientific research establishments, total losses of fertilizer when spread over the surface can reach 20 percent.

This method has yet another significant shortcoming, especially when the fertilizer is placed into fall-plowed land. We know that fertilizers mainly consist of salts which dissolve well in water, mix easily with the soil and, after remaining there a long time, enter into chemical and physicochemical interaction with the absorbing complex of the soil, are used by microorganisms in the soil and migrate with the flow of water, especially in light soil. Working the fields with surface plows, cultivators or harrows mixes the fertilizer with the topsoil, from which the plants take nutrients only at the beginning of their growth phase and in very small quantities, after which the roots descend into the depth. The fertilizer utilization ratio for shaping the yield deteriorates drastically as a result.

These shortcomings are eliminated to a significant degree with the local application of the fertilizer. The main localized strip application of fertilizer is performed with grain planters, and this also includes the application of fertilizer to the area of the roots of winter crops, which is extensively practiced by the farms in the spring. Although this method has advantages over the broadcasting method, it also has its shortcomings.

With strip application, the fertilizer is placed at only one specific depth, and this does not provide optimal nutrition for the plants throughout their vegetation period. The bulk of the roots are concentrated in the topsoil, and it is best to apply the fertilizer locally, in strips, without mixing it with the soil to the entire depth of the plowed stratum.

Scientists of Altay Kray have made it possible to place the fertilizer below the seed and obtain good yields by modifying the coulter on the SZS-9 planter, and later that of the SZS-2.1.

A technology for performing the main application of mineral fertilizer to the soil by the inclined-strip method has been developed at the Bashkir Agricultural Institute.

It is essentially the following: Inclined slits are made in the plowed stratum of the soil at an angle of 40-50 degrees to the surface of the field, and the fertilizer is spread in the slits on a strip 19-22 centimeters wide. These inclined strips overlap one another vertically, although the rows of strips are also separated by up to 22 centimeters. The fertilizer is placed into the soil, beginning 5-7 centimeters beneath the surface, and covers almost the entire layer of topsoil. The fertilizer is applied with a coulter of special design, which is installed on the SZS-2.1 stubble drills instead of the digital coulter. It can be installed on plant-feeders/cultivators instead of applicator feet.

The broadcast method of applying mineral fertilizer during the presowing cultivation increased winter wheat yields by 3.4 quintals per hectare in 1983, the local-strip application increased the yield by 5.6 quintals per hectare, and the inclined-strip method increased yields by 12 quintals per hectare, which is

11, 18 and 39 percent respectively above the control figures. These data convincingly demonstrate the need to extensively adopt the inclined-strip method of applying fertilizer to grain crops.

Success in the intensification of grain production will depend to a significant degree upon the technological discipline and organization, upon the awareness of the people, and will require a high level of skill and concern for the results of the work on their part. It is therefore urgent to simultaneously resolve organizational and economic questions as we convert to intensive technology.

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CSO: 1824/325

RAFTERS' CONFERENCE HIGHLIGHTS TIMBER TRANSPORT PROBLEMS

Moscow LESNAYA PROMYSHLENNOST' in Russian 18 Apr 85 pp 1, 2

[Article by V. Litvinov and P. Tizengauzen, LESNAYA PROMYSHLENNOST' special correspondents, Karelian ASSR: "Rafters, Prepare For Rafting," subheaded "On the Eve of the Harvest: Notes From the All-Union Conference in Petrozavodsk." Indented material shown in boldface in source]

[Text] The USSR Ministry of Timber, Pulp and Paper, and Woodprocessing [USSR Minlesbumprom] handles very large quantities of raft timber. Every year more than 73 million cubic meters of timber are conveyed by waterway to consumers. The largest portion of this volume is received by our pulp and paper and saw-milling and wood-processing enterprises. Therefore, both the work of individual rafting collectives and work in the branch as a whole is very much dependent upon the efficiency of raftsmen. This means that raw materials must be conveyed quickly, without loss and in full volume to their destinations.

But how does the matter stand in practice? Who do the workers of waterway and timber rafting bureaus compare to? What are the prospects for the development of timber rafting within the next few years? These and other questions were discussed at the All-Union Conference of Raftsmen in Petrozavodsk at which N. S. Savchenko deputy minister of the Timber, Pulp and Paper and Woodprocessing Industry presented a report.

The Fruits of Disorganization

Let's be direct--the timber rafting season for 1984 was unsatisfactory. Timber raft dispatch and delivery plans were disrupted. Consumers across the country were shortchanged by more than 5 million cubic meters of raw materials. The Balakhniskiy Pulp and Paper Combine, many enterprises--Severolesoeksport, Krasnoyarsklesoeksport, Karellesoeksport and others--found themselves on "starvation rations."

How can such a situation be explained? How can a precisely planned conveyance of timber by rivers and lakes be guaranteed? Is it possible to

completely fulfill contracts with consumers? Absolutely. In order to accomplish this it is first of all necessary to get the timber to the rafting route with strict adherence to the planned quantity and to prepare it for shipping in a timely fashion. Unfortunately, to date this isn't happening in practice. Every year it turns out that rafted timber resources fall short of planned goals by a million cubic meters. The main reason is the poor work of riparian timber enterprises [lespromkhozes] and rafting bureaus, and irresponsible attitudes toward plan discipline. Reproaches must primarily be addressed to Dal'lesprom, Irkutsklesprom, Vologdalesprom, Krasnoyarsklesprom, Permlesprom and Arkhangel'sklesprom.

And this year there is no improvement. Take for instance this same Arkhangel'sklesprom. Here they have already decided to short-change subcontracting factories by about a million cubic meters of raw materials. Why? The deputy chief of the association V. Zazhigin justifies this by claiming that there is a lack of manpower in the north and a shortage of equipment and also managers don't have an optimistic outlook. The opening of the navigation season is also patiently being awaited here although this year the water levels are expected to be very low. It has become evident that even now Arkhangel'sk has no specific plans for the production of rafts by river transport workers and for regularly dispatching them from timber yards in the event that the water level is low; they are already "counting on" drying out 45,000 cubic meters of timber here.

Our second reserve is combatting the huge loss of timber. In 1984 1.3 million cubic meters of timber was left along the way, sunk or scattered along the shores by the water. Another 2,318,000 cubic meters was not dispatched because lespromkhozes and timber rafting bureaus did not manage to separate the unmarketable stem-timber on time. At a number of reservoirs the towing of rafts was treated carelessly so that more timber was lost. In all there were 59 rafting accidents of which 35 were the fault of river transport workers.

The reason for all this stems from the fact that there was no substantive preparation for navigation period and rafting work was delayed from the outset. And this is fraught with consequences. The most favorable high-water time on rivers, when it is significantly simpler and easier to float steam driven timber and rafts, is passing and conditions are becoming complicated. Expenditures on the dispatch of timber are increasing because a mass of logs sit drying on the banks. For instance, last year at Krasnoyarsklesprom raft construction work was begun 15 days later than planned and because of this they were not able to cope and 230,000 cubic meters of timber was left in rafts for the winter.

Unfortunately, the sad experience of past years has taught the Siberians very little. Today again Krasnoyarsk reservoirs are falling behind, with timber lashed together on shore, and they continue to pile it up at ill-suited sites.

A Barrier to Losses

An interesting experience has been amassed in Karelia. In order to quickly clear the rivers and lakes of scattered and sunken logs, specialized skilled divisions were set up here for dealing with the handling of lost raw material, provided the personnel, motor boats and sunken log reclamation machinery and resolutely took it upon themselves to bring order to the reservoirs. And they have managed to do quite a bit so far. By the 11th 5-Year Plan more than 500,000 cubic meters of timber had been brought up and dispatched so that the city's program compares with that of a large-scale lespromkhoz. The procurement price for this sort of cubic meter is only 3 to 4 rubles, which is several times cheaper than the extraction of timber from a strip of forest land.

However, other associations do this sort of thing infrequently and as the saying goes "only under the lash." Usually collection of timber is done only in timber yards and in populated areas. And in the rest of the places nothing is reclaimed from the bottom for years.

This sort of "work" (if one may call it such) is especially characteristic of the Murmanles Association. Along the entire Tersk shore of the White Sea and along all the shores of rafting lakes, a mass of log wood, construction timber, and a selection of other valuable items is lying and rotting and nobody is concerned.

In places sunken wood reclamation units are poorly utilized. And this scarce machinery generally stood idle the entire summer at the Segezha Pulp and Paper Combine where the bottom of the waterway is littered with timber. In that same length of time without large expenditures they could have gotten 25,000 to 30,000 cubic meters of raw material for production. Sunken wood reclamation units operate during only one shift at the Kondopoga Pulp and Paper Combine.

This sort of attitude towards an important matter is intolerable; it flies in the face of the resolution of the CPSU Central Committee "On the Work Experiences of Collective Enterprises of the All-Union Industrial Associations Ugmebel' and Tsentromebel' and the Production Association Kiyevdrev in the Wide Involvement in Economic Reuse of Secondary Raw Timber, Byproducts of Logging and Woodprocessing."

There Are Still Quite a Few Reserves

The successful carrying out of rafting operations is inconceivable without the clearly defined interaction of sub-contracting factories. Every year an agreement is struck between raftsmen and river transport workers for socialist emulation under the motto "From Mutual Pretensions to Mutual Aid."

Labor competition is most successfully managed in the Tyumen'lesprom and Kostromalesprom Associations and the Ob-Irtyshsk and Volga River United Steamship Companies. Here ships for sawed timber are provided on schedule,

as is unloading on the waterways, and the least number of accidents tolerated during the rafting runs.

Unfortunately, there are examples of another type. The fulfillment of navigational plans is being disrupted to this day in certain regions because of the lack of coordination among sub-contracting enterprises and shabby organization of work. The Dal'lesprom Association and the Amur River Steamship Line can serve as bad examples.

Another more important component of the vital harvest is the effective utilization of machinery. Unfortunately, the miscalculations in this area are still considerable. Thus, at Permlesprom Association raft-lashing units are poorly utilized. In the course of a year about 1,600 cubic meters of timber are lashed together into rafts on shore which is obviously insufficient. The daily production for a single such machine does not exceed 94 cubic meters and is the very lowest in the ministry. Top producing workers however can produce 209 cubic meters per shift. Why such a difference? Because Perm timber rafting bureaus and lespromkhozes have excessively large equipment downtime. For example in the lashing together of the timber, the equipment is operated only during 30 percent of the work day.

Perm raftsmen have also not learned to effectively operate timber lashing machines. The output per shift of each machine is from 1,000 to 1,080 cubic meters. In order to lash together 2,500 cubic meters of timber for transport by water they are compelled to operate 12 machines; this is several times more the machinery than is necessary. For the sake of comparison we can state that up to 1.5 million cubic meters is lashed together into rafts with three similar units by the Dvinozplav Association of the Ust-Pinega Waterway.

As previously, in a number of associations there is a low degree of utilization of towing launches, floating cranes, patrol boats, tree winches and dredgers. As a result, labor productivity at many enterprises is not increasing. This applies to Bashles, Novgorodles and Vologdalesprom. In the associations Arkhangel'sklesprom, Dal'lesprom, Irkutsklesprom, Tomlesprom, Murmanles and Kemerovoles, timber transshipment production indicators have fallen.

How can these disruptions be explained? On the one hand, by the poor organization of labor, the lack of necessary supervision of the work of brigades and teams and lack of a thorough analysis of the technological and economic indicators. On the other hand, we have a lack of interest by people in the attainment of record-breaking productivity. Local authorities often forget [need for] socialist resolutions for the highest productivity, for high quality work and for the preservation of machinery among machinists, operators, crane operators and launch operators. The experience of top workers is poorly generalized and disseminated, and the contract brigade method is poorly implemented in rafting operations. Incidentally no one even mentioned this subject at the conference. And that's too bad.

Concern About the Future

For many logging associations the delivery of raw material by water is about the only means of obtaining it and their economic utility completely depends upon it. Naturally, they have a right to hope that the ministry's administration and scientific branches will give greater attention to questions concerned with increasing labor productivity and more quickly resolving problems that arise. And unfortunately it is exactly here that they at times do not find support and mutual understanding. There are clear examples:

"For the time being, boat hooks and drum accelerators are our only labor tools and operating machinery," says V. N. Osinov head of Kerch Waterway. "Is this normal?"

Other participants of the conference made similar claims. And rightly so. Machines and machinery for timber rafting are being developed and readied for use slowly, in small quantities, and they are unreliable. For decades discussions go on about a series of R-1 units designed by the Central Scientific Research Institute of Timber Rafting, there are discussions about floating tractors and binding machines, production conveyer machinery, sunken wood reclamation units, and still there are none to date and demands for them by production workers are not satisfied. Binding material--rope, chains, wire--without which it is impossible to construct rafts, is constantly in short supply.

An expansion in the quantities of rafts and the desire to pile up more timber at accessible levels compels raftsmen to build up the thickness of ice on rivers and lakes, not waiting for big freezes before putting rafts on them. And again people run up against the most difficult problems. What thickness of ice is required for the safe movement of timber rafting units? What size bundle must be formed? And even though this is a necessary concern and many people have long been engaged in the making of artificial ice, there are still no clear-cut scientific recommendations, and practical help for producers is not to be found.

An enormous army of laborers is involved in timber rafting operations. The majority of waterways switch over to a three shift work schedule in the summer. And there is a shortage of workers everywhere. Inexperienced workers, such as students and seasonal workers, are assigned to operate the most complicated machinery. Hence there are frequent breakdowns of equipment and disruptions in established schedules for dispatching raw materials to consumers.

How strange it is that this is little pondered in enterprises and at associations. At present the training of specialists for timber rafting work has been discontinued everywhere, and specialized [curricular] departments have been closed. Everyone hopes for some sort of a miracle.

"Because of this kind of short-sighted, passive attitude, it is impossible to completely fill even a single session for raftsmen with students at the

Petrozavodsk Technical College of Forestry," complained A. I. Filippov director of the lesotekhnikum. "Last year out of the 90 people that lespromkhoz branches promised, only 3 fellows were sent for training. Who will there be to replace the older generation in timber rafting bureaus?

The all-union conference adopted recommendations on the perfection of timber rafting operations and equipment, and the technology of timber rafting and trans-shipping work. It was proposed that organizations and enterprises work out more complete technological plans for timber rafting operations, more quickly implement new machine systems in production, and resolutely work to mechanize manual labor and thereby reduce the number of people involved in rafting operations.

Increasing the quantities of rafts lashed together on shore consisting of stem timber and other types of wood, the creation of dependable rafting routes and timber yards, increasing the buoyancy of wood by means of high quality preparation for rafting, and strict observance of technological discipline should be considered as the principal directions for the future development of timber rafting operations. It is necessary to improve the construction of rafts, to mechanize tying and rigging removal operations, and to increase the lifetime of the rigging. It is necessary to further develop the extensive struggle for the utmost economy of raw timber, materials and fuel and energy resources.

All-union and production associations should employ exhaustive measures to deliver all wood resources produced to consumers, to curtail the loss of timber and prevent the natural sinking of timber by reclaiming the timber involved in rafting mishaps of previous years, and in the course of navigational work to organize sunken timber reclamation units for two and three shift operations.

Participants of the conference urged all raftsmen to greet the 27th CPSU Congress with high labor achievements.

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